Evaluation of a Computer-Based CBT package for Exam Anxiety

by

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Acknowledgments

"I lift my eyes to the hills – where does my help come from? My help comes from the Lord, the maker of heaven and earth."
Psalm 121v1

To my family and friends who have supported me, so many thanks; you know I could not have done it without you. Great thanks also to the course staff and my placement supervisors for all their help throughout training.
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ACADEMIC DOSSIER
To What Extent Is Membership of an Ethnic Minority group (in the UK) Influential on the Process of Diagnosis and Treatment of Depression?

Adult Essay

January 2005
Year 1
Introduction

The United Kingdom is an ethnically diverse country with 7.9% of the population coming from an ethnic minority (Office for National Statistics, 2003). Over half of these are from the Indian Subcontinent, a quarter are African-Caribbean and 6% are Chinese in origin. They show significant variation in geographical distribution, with a tendency to form groups around country of origin. Many African-Caribbean, Bangladeshi and Indian people live in Greater London, whilst there are significant populations of Indian people in Leicestershire and the West Midlands, and Pakistani people in the West Midlands and West Yorkshire. The Chinese are more evenly dispersed throughout the UK (National Institute for Ethnic Studies in Health & Social Policy, cited in Bahl, 1999). These figures, and the priority given to addressing issues relating to ethnicity in the National Service Framework for Mental Health (1999), mean mental health professionals need to be informed about the influence of ethnicity on mental health problems, including depression. Ethnicity can be defined as:

"...a reference group invoked by people who share a common historical style (which may only be assumed), based on overt features and values, and who, through the process of interaction with others, identify themselves as sharing this style" (Royce, 1982, cited in Bhugra & Bahl, 1999, pp.5).

I chose this definition as it contains both objective and subjective components: recognising that ethnicity is a way for people to group others, so sharing information about them. This is only valid, however, if it is an identity the person themselves would agree with. It also allows for ethnicity to be more than race and so could be extended, for example, to religious groups or groups formed around sexual identity. Whilst the focus for this essay will be around shared racial origin leading to ethnicity, it is important to recognise that ethnicity and culture mean more than this, as they are mutable properties, unlike race.

I chose this essay for two reasons. The first being that I have only worked in areas which are almost without ethnic diversity, yet had noticed differences in approach according to social class and so welcomed the opportunity to expand my thinking and knowledge. The second being that I have had experience of the Christian community,
which could be seen as an ethnic group, having different concerns around seeking psychological help for depression and so wanted to think about other groups for whom spirituality may be more of a concern than the majority population.

Depression is a very common condition with at least 15% of adults requiring treatment for it at some point in their lives (DoH, 2002). Depression is approximately twice as common in women as in men (Brown & Harris, 1978). There is surprisingly little information relating to depression amongst ethnic minority populations in the UK, and that which does exist comes primarily from the psychiatric rather than psychological community meaning the emphasis is on prevalence rates, detection and drug treatment. The suicide rate amongst Asian women aged 15-34 is between 60 and 300% higher than the national average (Soni-Raleigh et al, 1990). This has led to most of the research in this area focusing on the Asian population, and is reflected in the literature used here. Another reason for this is that there appears to be better detection of depression amongst African-Caribbean than Asian people (Nazroo, 1998). In this essay reasons for the difference in detection rates will be explored, the standard process of diagnosing and treating depression outlined and then the influence on this of membership of an ethnic minority group discussed. There has been more research done on the effect of ethnicity on both diagnosis and treatment of depression in the USA and although the minority groups there are different, the common themes that emerge from this literature seem to make it useful when considering the situation in the UK and it is drawn on heavily here. For the purposes of this essay African-Caribbean refers to an ethnic identity originating from African and Caribbean countries, Asian refers to ethnicity originating from the Indian Subcontinent and East Asian reflects China and other countries in the East of Asia.

Prevalence Rates of Depression Amongst People from Ethnic Minority Groups
Historically Western psychiatry has operated on the premise that mental health problems are universal, with the same presentation across races and cultures, meaning that the same criteria can be used for diagnosis (Thakker & Ward, 1998). Cross national studies looking at the prevalence of depression in different countries, using standardised diagnostic tools, reveal different incidence rates. One example of a study such as this is Ustun & Satorius (1995) in which World Health Organisation data was
used to compare use of primary care facilities in urban areas of England, Nigeria and India. Depression was found to be the most common disorder in each centre with England being the highest (17%), followed by India (9%) and then Nigeria (4.2%). This could represent either different prevalence rates, or different detection rates due to the methods used. Goldberg (1999) attributes the low prevalence of depression in Nigeria to poor recognition by doctors. But what is also significant is that the study used tools and methods relying on a Western understanding of depression.

Most prevalence studies in the UK that include people from ethnic minorities have focused on comparing ethnic minorities with the majority population. Nazroo (1998) surveyed the large ethnic minority groups living in the UK. This revealed higher rates of depression amongst Caribbeans, going against previous treatment studies, and lower rates amongst Asians, agreeing with treatment studies. Despite matching participants and interviewers according to culture and using the language of the participants' choice, Nazroo (1998) attributes the low detection rates amongst Asians to the instruments rather than actual prevalence. He reports interviewers having difficulty using and translating terms such as depression, which are clearly central to the research. This was supported by the prevalence of depression amongst Asians who had been educated in Britain or were fluent in English being similar to the white population. It does not seem logical to suggest that those who have been educated in Britain experience more depression that those who migrated later, instead it may show that they are more able to express their distress in ways that are readily understood by western medicine. This agrees with research in America looking at the degree of acculturation and depression amongst South East Asian women (Brown et al, 2003) in which those with more western views of depression are more likely to seek mainstream medical help and more likely to be diagnosed with depression.

Nazroo (1998) and Weich et al (2004) report depression rates to be lower amongst the Asian community, but concerns over the sensitivity of the studies and the higher suicide rates found, especially amongst young women, in this group (e.g. Soni Raleigh, 1996), supports the idea that they may not be representative.
These studies are large, well constructed studies, yet present a mixed picture as to the effect of ethnicity on the prevalence of depression. The mixed results suggest the difference is not biological, but the role of acculturation and the way in which being educated in the UK appears to increase the likelihood of identification suggests that if the differences are real they may be due to cultural factors. Currently I do not think it is possible to conclude whether these differences are real or apparent but the fact that instruments used are based on a western construction of depression when the ways in which distress is communicated are known to vary culturally means these studies cannot be proven to be valid and may over or under estimate prevalence. The role of cultural idioms of distress will be discussed further when looking specifically at the diagnosis of depression, but the studies reviewed here begin to hint that ethnicity is a significant factor in the diagnosis and treatment of depression.

Diagnosis and Treatment of Depression in the Majority Population

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; APA, 1994) is a very commonly used classification system which defines a major depressive episode as:

Five or more of the following symptoms in the past two weeks:

- Depressed mood most of the day, nearly every day, as indicated by self-report or observation by others.
- Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.
- Significant weight loss, when not dieting, or weight gain, or decrease or increase in appetite nearly every day.
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Feelings of worthlessness, excessive or inappropriate guilt
- Diminished ability to think or concentrate, or indecisiveness
- Recurrent thoughts of death, suicidal ideation, or suicide attempt.
These must occur in the absence of manic episodes, not be due to substance abuse or a medical condition, cause significant distress or impairment of functioning and not be explained by bereavement.

Whilst the definition states five or more symptoms are required this is an arbitrary cut-off point (Field, 2003) so clinical judgement is required to take into account other circumstances, especially their impact on functioning. As well as a clinical interview a number of questionnaires exist which can be used to aid diagnosis, gauge severity and form a baseline against which to measure change through the course of treatment. The Beck Depression Inventory (BDI; Beck et al., 1961) is a 21-item tool providing a summary of symptoms and a rating of the severity of depression. A score of at least 10 indicates depression. 10-19 = mild depression; 20-25 = moderate depression; 26 or greater = severe depression (Fennell, 1989). Whilst providing information on severity it gives an indication of associated risk as it includes items on hopelessness and suicidal thoughts or actions, which the clinician can then follow up on. A tool that is widely used in research is the General Health Questionnaire (GHQ; Goldberg & Williams, 1988) which covers a number of domains including mood, anxiety and sleep, and general activity. Items from this questionnaire can be used to identify cases of depression and rate severity. This is a more general measure than the BDI, not solely designed for depression and so may be of more use in research than when working with a client you know to be depressed.

A number of psychological therapies have been shown to be effective for treating depression including Cognitive Behaviour Therapy (CBT; e.g. King et al, 2000) and psychodynamic therapy (e.g. Shapiro et al., 1994) and inter-personal therapy (e.g. Rossello & Bernal, 1999). The National Institute for Clinical Excellence (NICE) guideline for the management of depression (NICE, 2004) suggest a stepped-care approach to the management of depression. They recommend that mild depression is managed using guided self-help based on CBT, mild to moderate depression is managed using brief focused psychotherapy including problem-solving, CBT or counselling for six to eight sessions, whilst severe depression is managed with a combination of anti-depressant medication and individual CBT for 16-20 session. However these guidelines also recognise that client choice may lead to a preference
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for a more inter-personal or psychodynamically focused intervention. This agrees with my experience of a client with recurrent depression in secondary care who wanted to explore the underlying reasons for her depression and expressed a strong preference for an exploratory approach.

CBT for depression is based on Beck's (1976) cognitive model which says that early experiences form a set of beliefs about the world, both dysfunctional and adaptive. Later in life a critical incident may cause the dysfunctional beliefs to be activated resulting in negative automatic thoughts, which are believed to be true and lead to the behavioural, cognitive, somatic, motivational and affective symptoms of depression. CBT for depression focuses on identifying the negative thoughts and challenging them through talking through possible outcomes in situations associated with these thoughts and carrying out behavioural experiments to test the beliefs. In addition, techniques such as cognitive rehearsal of expected future events and learning to generate alternative solutions to problems are used to increase the clients' beliefs about their control in a situation (Fennell, 1989). The aim of this therapy is to cause the activated negative schemas to become dormant again, lifting the depression. In cases of more enduring depression it may be necessary to work on modifying the dysfunctional beliefs themselves.

A psychodynamic approach would involve exploring the onset of the difficulties to find events that may have been triggers. These events are then discussed to enable the client to become aware of disappointments and regrets about the behaviour of others or themselves in those situations which they were initially unaware of and explore possible conflicting emotions that are thought to be causal in the depression. Acknowledging, expressing and realistically evaluating these hurts and conflicts within therapy allows them to dissipate leading to removal of the depression (Castelnuovo-Tedesco, 1978).

**Differences in Diagnosing Depression in People from Ethnic Minority Groups**

Some research has suggested that people from non-western cultures may present with primarily somatic symptoms instead of the mainly psychological symptoms identified in the DSM-IV (Mukherji, 1995). However Patel et al (1998) reported the presence of
psychological symptoms including sad affect and loss of enjoyment in all countries they studied. Patel (2001) notes that symptoms that vary culturally are not central to depression, but the core symptoms can be found universally. Patel (2001) suggests that whilst there may not be significant variation in the cross-cultural presentation of psychological symptoms, willingness to volunteer these to health professionals may vary. This is supported by Comino et al (2001) who found Australian GPs were less likely to detect depression in South East Asian patients who were identified as depressed according to a self-report measure. Interestingly these patients also reported wanting more discussion of their condition with the GP. Comino et al (2001) interpret this as being due partly to a lack of willingness to easily volunteer symptoms of psychological distress to the GP, but the self-report measures show the participants were aware of these symptoms. This suggests there may be a greater need for practitioners to probe beyond reports of physical symptoms and ask specifically about psychological symptoms rather than expecting the client to volunteer these. There may also be very different cultural expectations about how much information one should reveal about one’s self or family to strangers, which will again affect diagnosis of depression (Brown et al, 2003). This may be particularly pertinent in Asian communities where family honour and respect are very powerful concepts.

This highlights the key importance of the use of culturally acceptable idioms of distress. If practitioners are going to be able to diagnose depression then they need to understand how it is likely to be communicated. This seems particularly important for the Chinese and South East Asian communities. Culturally recognised conditions such as neurasthenia and hwa-byung share many somatic and psychological symptoms with depression (Lin et al, 1992), yet there is not a complete overlap between these conditions and depression symptoms (Zheng et al, 1997) suggesting they are not the same thing. However, due to the overlap in symptoms and the cultural acceptability of these conditions it is likely that the idioms will be used to communicate distress due to depression and so practitioners need to be aware of the associated symptoms and view them as indicators of a need to probe for further depressive symptoms.

The way in which the culture conceives depression is also going to influence the information volunteered. Brown et al (2003) discuss ethnic minority women seeing
the symptoms of depression as an expected consequence of the social and economic hardship they experience. They suggest asking about their ability to fulfil their social roles can assess the extent of depression in these situations. This is also important when working with women whose primary role and identity in the culture is around looking after their family and maintaining interpersonal relationships (Brown et al, 2003), reporting difficulty fulfilling these roles may indicate significant depression.

An additional factor in the diagnosis of depression is that some cultures may not see mental health problems as relating to the health care system. Instead they may be viewed as a spiritual or family issue (Dein, 1997), meaning help may be sought from religious figures or other traditional healers. This view will affect how the problem is presented and the causal explanations given, again requiring more curious questions from the practitioner to identify depression. It also means that contact with health services may only occur when the depression is more serious and other options have been exhausted (e.g. Chew-Graham et al, 2002).

Whilst Nazroo (1998) and Comino et al (2001) suggest that measures such as the GHQ may under-report symptoms of depression amongst Asian people, but are more accurate for African-Caribbean people, the same studies show these measures to be more sensitive that GP consultations alone. Both the GHQ and the BDI have been translated and normed for non-western cultures (e.g. Al-Musawi, 2001) suggesting they are valid measures but that the cut-off points may be different. As these are more sensitive than a simple interview they should be used. Norms exists for their use with Asian women in the UK (Jacob et al, 1997) and so should be used where possible. When using these measures with other groups clinical judgement may be required in interpreting the results. The main differences in the process of diagnosing depression are around the type of questions asked, these may need to relate more to role function and explanatory model than would be necessary with a person from the majority population. As much diagnosis of depression is done by GPs, psychologists need to be aware of these factors when working with people for other reasons, in case underlying depression has been missed.
Differences in Treatment of Depression in People from Ethnic Minority Groups

There has been little research done on the effectiveness of psychological therapy with ethnic minority groups and these groups are often excluded from participation in mainstream studies (Rossello & Bernal, 1999). A few studies have been completed. Miranda & Munoz (1994) showed CBT to be effective in reducing depressive symptoms in African-Americans and Brown et al (1999) showed interpersonal therapies also to be effective for African-Americans. Rossello and Bernal (1999) showed CBT and IPT to be effective in treating depression in Puerto Rican Adolescents. These studies suggest that therapies which are most effective in the white population are also effective in ethnic minority populations, but a very important factor is that they contained cultural adaptations including translation of materials and adjustment of techniques to be culturally relevant and sensitive. This shows that whilst the underlying rationale of the treatments, and many of the techniques used, are appropriate it may be necessary to adapt them to be more suitable for individual treatment or groups of people of the same ethnicity. Given that Comino et al (2001) reported non-western clients wanting more time to discuss their difficulties, even if a CBT approach is going to be used, more time may have to be given to discussion and exploration of the difficulties and the client’s beliefs around them.

Whilst the techniques may be the same, the literature suggests that a key difference is that more time may have to be spent building the therapeutic alliance when working cross-culturally. Chew-Graham et al (2002) held focus group discussions with women from different areas of the Indian Subcontinent currently living in Manchester. A strong theme identified involved the concept of family honour and the way in which any help seeking would be seen as letting the family down, when coupled with a culture in which it is expected that people will report back on others, especially women, confidentiality was a very serious concern when the consequences for violating family honour can include physical violence. They expressed a preference for first language services; where this is not possible open discussion between all involved is needed, and consideration given to using interpreters outside the community to allay fears about confidentiality. This group also felt they would be treated according to racial stereotypes by clinicians rather than as individuals and
expressed a feeling that their situation could not be understood by someone from outside their culture. These points would need to be addressed explicitly by the clinician to build trust. The patient’s explanatory model for their depression may also affect engagement with treatment. Azocar et al (1996) found that openly discussing both the client’s and therapist’s beliefs about the origin of the depression was essential to establishing a therapeutic relationship and reduced the likelihood of dropping-out of therapy. This means that it must be a two-way discussion to create shared understanding rather than the clinician simply educating the client about a model.

Whilst many issues people face may be common across cultures, some issues may be more relevant to ethnic minority groups. The importance of maintaining the family and fulfilling social roles may be more important in cultures with a more collectivist identity. This may also bring about significant role conflict, especially for women, if they are trying to live and work in a more western culture, but also want to maintain traditional family roles or feel pressure from relatives to do this (Brown et al, 2003). This may require flexibility on the part of the therapist to think with priorities very different from their own. It appears that the issues are not solely related to women. A counsellor (V. Alexander, November 2004, personal communication) who works with Asian clients reported that it is often very important to maintain an Asian man’s perception of control and respect and that as they may not engage with services for more than a couple of sessions, she would focus more on making them aware of sources of support they might find more acceptable. It is also possible that the effects of experiences of racism may need to be acknowledged and explored, this may also extend to any assumptions or stereotypes the client feels the therapist has. The issues for people who are second generation migrants will be very different to those for new migrants, for example cultural conflict may be more relevant to the former whilst issues around separation and lack of close support or trauma in refugees may be more pertinent to the latter.

Ethnic minority cultures may also bring adaptive coping strategies which the practitioner may not be aware of, yet these should be encouraged in treatment. For this reason it is very important for the practitioner to find out what these might be, both from the client and from other sources. One significant area is spirituality and
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religion. Mayes et al (as cited in Brown et al, 2003) identify a strong link between psychological and spiritual well-being in African-American women, and its power as a coping mechanism. Tabora & Flaskerud (1997) identify similar themes for people from South East Asia. Organista et al (1993) recommend encouraging behaviours such as prayer and church-going to manage negative moods, but they caution that these behaviours may need to be challenged if they are being used to avoid active problem solving. I think that it is important for a therapist to overtly value religion in a client's life as this can be an area where people expect Westerners to be dismissive and so may be hesitant to mention something very central to their lives, and possibly very important in alleviating their symptoms. I think this will also help to build the therapeutic alliance; my personal experience of Western Christians leads me to think people with religious beliefs can be put off seeking psychological help as they think the therapist will dismiss or attempt to persuade them out of their beliefs, and it seems possible this would be true of people with other religions. Large family networks and an emphasis on supportive relationships within the community may also provide adaptive coping strategies and protective factors (Plant & Sachs-Ericsson, 2004).

Chew-Graham et al (2002) showed that many Asian women lacked basic information about both health and welfare services, this needs to be tackled at an organisational level by having information visible in the community in appropriate languages. Plant and Sachs-Ericsson (2004) suggested that inability to meet basic social needs was a mediating factor in the higher rates of depressive symptoms found in people from ethnic minorities. This was an American study so the groups involved and welfare systems are different to the UK, and poverty and social exclusion are more prevalent amongst ethnic minorities in the USA than in the UK (Bahl, 1999). Despite this it seems reasonable that meeting social needs would be influential on depression in the UK and so should be included in treatment.

It is important to note that most of the research here relates primarily to women, and UK research has focused almost exclusively on Asian women. Whilst depression is more common amongst women (Brown & Harris, 1978) it is still a significant problem amongst men yet there is almost no literature on how it should be approached especially within ethnic minority communities where the difference between men and
women's roles can be even more significant than in western cultures. Whilst the same treatment methods may be used with white and ethnic-minority clients, it may take longer to build a therapeutic alliance as the therapist learns about the clients' culture and explanations for the problems are discussed to create shared understanding. The role of specific experiences such as conflict between western culture and family culture and racism may need to be explored during therapy and flexibility may be required from the therapist to make use of culturally relevant adaptive behaviours.

Conclusion
To what extent is membership of an ethnic minority in the UK influential on the process of diagnosis and treatment of depression? In the ethnic majority population of the UK depression can be diagnosed according to DSM-IV criteria focusing on psychological symptoms such as low mood, anhedonia, change in eating and sleeping patterns and suicidal thoughts. There has been some debate as to whether people from non-western cultures express depression as primarily somatic symptoms instead of psychological symptoms. The under-reporting of depression amongst Asians may in part be due to fear about accessing mental health services, which needs to be addressed at an organisational level. However, studies comparing self-report of depressive symptoms with GP diagnosis also suggest that people from ethnic minorities are aware of their psychological symptoms but are less likely to reveal them to the GP. This may be due to physical symptoms being a more culturally acceptable expression of distress, a collectivist cultural identity where interpersonal functioning is more important than an individual's feelings or an explanatory model for symptoms which does not see them as a problem appropriate for a GP. This means that during the process of diagnosing depression it will be necessary to go beyond questions about how the person feels to asking about their ability to fulfil social roles, what significance particular physical symptoms may have in their culture and what explanation they themselves and their culture would give of their symptoms. Self-report questionnaire measures may be useful although practitioners should be wary of relying on the norms for the general UK or the country of origin of the person, as neither group may be appropriate. The primary influence of being a member of an ethnic minority group on the diagnosis of depression is on the style of questions the practitioner needs to ask rather than the symptoms they are actually looking for.
The standard psychological treatment for depression, including CBT and IPT have been shown to be effective in ethnic minority groups, although these studies were not carried out in the UK. This shows the underlying method to be effective, but these treatments require adaptation in translation of materials and incorporation of adaptive behaviours specific to the culture. This can include the use of religious practices and the extended close social networks that may be central to the person’s life. Whilst the methods may be effective, extra attention may need to be given to developing the therapeutic alliance. It may involve particular emphasis on confidentiality, especially if an interpreter is involved and spending time developing a shared understanding of the origin of the difficulties; this can be very important to aid engagement and continuation with the treatment. During the process of therapy issues specific to being part of an ethnic minority group may need to be addressed, these could include conflicts within the family owing to different degrees of acculturation, experiences of racism, effects of migration and loss of support, and the consequences of living in poverty coupled with lack of knowledge of what help is available. The main influences of being a member of an ethnic minority group on the treatment of depression is in the need to adapt the methods to be culturally relevant, which includes language and willingness to address specific topics, and paying specific attention to the formation of a therapeutic alliance. Both the issues of treatment and diagnosis of depression are underpinned by the apparent difficulty people from Asian groups have accessing mental health services at an early stage, due to lack of information, cultural understanding of mental health problems and related concerns about confidentiality.

Through writing this essay I think the influence of being a member of an ethnic minority on the diagnosis and treatment of depression is less that I initially thought it would be, although it is still significant. I think it can be summed up as taking a curious questioning approach which treats each person as an individual rather than having preconceived ideas about possible causes, maintaining factors or appropriate interventions. Such an approach which is as relevant to working with people from the white population who are no more homogenous than an ethnic minority group, but it does require flexibility of thinking from the clinician and awareness of the possible issues outlined here.
References


Supervision is seen as an Important Part of a Psychologist's Personal and Professional Development, Yet Mental Health Professions are Somewhat Ambivalent. Critically Discuss Your Experiences Against Two Theoretical Supervision Frameworks of Your Choice, Focusing on Supervision and Learning, and Ethical Issues Including Working with Difference.

Professional Issues Essay

Year 2
December 2005
Introduction
The Division of Clinical Psychology (DCP) of the British Psychological Society (BPS) states “...supervision is regarded as a core clinical activity to ensure the delivery of effective and high quality services.” (BPS, 2003 p2), and lays out minimum standards for the amount of supervision to be received by practicing professionals. This clearly places supervision as central to the practice of clinical psychology and identifies its purpose as safeguarding the quality of the services provided. The DCP guidelines lay down the expectation that clinical psychologists will provide supervision within the profession, and experience suggests they will also supervise members of other disciplines. The increasing emphasis on supervision within the NHS also complements the drive for increased clinical governance to continually improve health care standards. For these reasons it is essential for clinical psychologists to become competent supervisors and this motivates my choice of essay. As I am entering a profession in which supervision is central, and have had varying experiences of supervision, it seems important to become familiar with models of supervision and the factors that contribute to effective supervision. I will briefly look at reasons for possible ambivalence to supervision within the health service. I will then give an overview of models of supervision before describing Stoltenberg and Delworth's (1987) Integrative Developmental Model and Hawkins and Shohet's (1989) Process Model of supervision. These will be reviewed against my experiences of supervision with reference to Kolb's (1984) model of experiential learning and the ethical principles of autonomy, beneficence, fidelity, justice and non-maleficence. I have chosen these two models as Stoltenberg and Delworth (1987) focuses on supervision over time whilst Hawkins and Shohet (1989) focus on the content of each supervision session. We begin by looking at some of the possible reasons for ambivalence to supervision within mental health professions.

Ambivalence towards supervision
Kilminster and Jolly (2000) review the supervision literature and conclude that supervision has a variety of definitions, functions and appearances. This lack of agreement on what constitutes supervision may contribute to ambivalence, as may lack of support and clarity on the purpose of supervision from managers (Malin, 2000). Hawkins and Shohet (1989) suggest a more unconscious reason: if people
enter helping professions partly to meet their need to help others which acts as a
defence against acknowledging their own needs, then embracing supervision
challenges this defence as it involves accepting help. Davy (2002) observes that
supervision has served both as a means of social control in professions such as
nursing and midwifery, whereas it serves as a means of self-justification within the
psychoanalysis tradition. He also notes that it is unacceptable to question the value of
supervision. I also feel that the tension between dependence on the supervisor and
wanting to appear competent due to their evaluative function (Kilminster & Jolly,
2002) may also lead to ambivalence. Hence there are a variety of reasons for
ambivalence, which makes supervision a difficult process, especially if the culture
cannot face questioning its value.

Definitions of supervision
Kilminster and Jolly (2000) identify the common components of supervision
definitions as being: ensuring the safety of supervisee and client; monitoring work
load and case complexity; providing formal and informal feedback; planning
education needs; providing careers advice. This clearly illustrates the numerous
functions of supervision, but Hess (1980) suggests the ultimate aim is for the
supervisor to make the supervisee more effective at helping others. This can apply to
both individual client work and using supervision to consider the broader service
delivery context. The DCP guidelines (2003) do not define what supervision should
be for a clinical psychologist, and given the increasing recognition of supervision as a
career-long need, many definitions seem inadequate as they focus on evaluation
within a non-peer relationship. Given that my experience of supervision, which will
be discussed here, is in the context of training, a definition encompassing evaluation
and quality control is acceptable. Bernard and Goodyear (1992 p.4) will therefore be
used:

"An intervention that is provided by a senior member of a profession to a
junior member or members of that same profession. This relationship is
evaluative and extends over time and has the simultaneous purpose of
enhancing the professional functioning of the junior member (s), monitoring
the quality of professional services offered to the clients that she, he or they
see(s), and serving as gatekeeper for those who are to enter the particular profession.”

Use of supervision for learning
Supervision's aim of 'enhancing professional functioning' clearly encompasses the trainee learning from the supervisor. Kolb (1984) views learning not as an outcome which can be measured in terms of facts or behaviours gained, but as a process whereby concepts are refined through experience hence, making it adaptive to the situation. Through this process conflicts between the concrete experience and theoretical understanding of the situation are resolved by reflection on the experience in the light of theory. This leads to active experimentation when the situation occurs again, which continues the cycle of learning. Kolb's (1984) model can be represented as figure 1.

Figure 1. Kolb (1984) Experiential learning cycle

If supervision is to enhance the professional functioning of the supervisee then it must be able to accommodate a learning process similar to Kolb’s. In addition to experiential learning, I think the role of social learning theory (Bandura, 1977) should not be ignored. The trainee's consideration of feedback, containing both praise and criticism, is a central part of supervision (Cushway & Knibbs, 2004) and modelling, goal setting and feedback have been shown to have a positive effect on trainee behaviour (Milne & James, 2000). Both experiential learning and behavioural learning will be discussed in relation to the supervision models and my experience.
Use of supervision in managing ethics

Bernard and Goodyear’s (1992) definition of supervision highlights the role of supervision in monitoring the quality of the services provided to clients. This encompasses discussion of specific ethical issues in addition to regard for the well-being of the client. Scaife (2001) highlights five over-arching principles of: autonomy, beneficence, fidelity, justice and non-maleficence. Common ethical concerns are covered by these principles. Issues of capacity and informed consent are addressed by autonomy, ensuring that individuals are free to make their own choices. Confidentiality is addressed under the fidelity principle, whereby agreements are kept, although the limits of confidentiality must always be acknowledged. Concern for the well-being of the client is addressed according to beneficence and non-maleficence, where the responsibility is both to do good by the client and avoid harming them. Issues of power and discrimination as a result of gender, sexuality, ethnicity or any other difference can be addressed under the principle of justice, which seeks to treat people fairly and equitably. As the supervisory relationship is three-way (supervisor to supervisee to client) the supervisor needs to apply them both to the supervisee-client relationship and supervisor-supervisee relationship. It is possible that conflicts of interest may arise as the principles are applied to both relationships. How these ethical principles arose in supervision will be discussed in relation to the supervision models.

Supervision models

Models of supervision are either based on psychotherapy models or designed specifically for supervision. It has been argued that effective supervision is similar to effective psychotherapy and so psychotherapy models should be applied to supervision (Lambert & Arnold, 1987). However it has also been proposed that therapeutic models cannot capture the complexity of the supervisory relationship (Bernard & Goodyear, 1998). Both psychotherapy based and supervision specific models have been shown to be effective (e.g. Milne & James, 2000, Leach & Stoltenberg, 1997) although Ellis et al. (1996) argue that much of the research into the effectiveness of supervision has been methodologically flawed. Beinart (2004) suggests generic supervision models are especially useful as they provide a framework for those beginning to supervise. The main types of models which have
been suggested are: developmental models (e.g. Stoltenberg & Delworth, 1987), which focus on the development of the supervisee from novice to competent therapist; social role models (e.g. Hawkings & Shohet, 1989), which focus on the roles and function of the supervisor, and a systems model (Holloway, 1995), which attempts to account for the influence of contextual factors of supervision.

Research into effective supervision suggest that the relationship between supervisor and supervisee is the key determinant (Kilminster & Jolly, 2000). This implies that there is not 'one way' to supervise, although I was unable to find any research comparing models of supervision. I have only experienced therapy-model based supervision but have chosen to focus on supervision specific models as they are designed to address the supervisory relationship, rather than psychopathology which is the function of therapy models. In addition, if the supervisory relationship is the key variable (Wheeler, 2004) then supervision specific models appear more transferable between supervisees and across disciplines, as well as providing a guide to supervisor behaviour which I think makes them more useful. As I consider both the development of the trainee across time and the function of the supervisor to be important and compatible issues, I will focus on the Integrated Developmental Model (IDM) of Stoltenberg and Delworth (1987) and the process model of Hawkins and Shohet (1989).

**Integrated Developmental Model**

Stoltenberg and Delworth (1987) see supervision as an interpersonally focused relationship with responsibility for trainee development, evaluation and client welfare. It is a developmental model designed specifically for therapists, which tracks the process from beginning practice to becoming a 'master therapist'. It was developed to integrate earlier models that assume trainees progress through stages of development and rely on the supervisor to adapt to the trainee’s level of development. Earlier models had been criticised for not explaining why development occurs in the order specified, and for a lack of detail regarding the processes occurring, as well as appearing to disregard previous trainee experience or individual differences.
The IDM proposes four levels of development from novice to master therapist. Within each level the trainee develops in three structures: self and other awareness, motivation and autonomy. These structures occur in eight domains of professional development: intervention skills competence, assessment techniques, interpersonal assessment, client conceptualisation, individual differences, theoretical orientation, treatment goals and plans and professional ethics. They suggest development is inconsistent with islands of increased competence developing until functioning at the new levels predominates. Based on Piagetian learning concepts they suggest trainees will temporarily lapse back to a more familiar stage when confronted with new challenges. Progress onto the next level only occurs when new information is assimilated into existing belief/action structures or when these structures accommodate new information.

Level one is characterised by dependence on the supervisor, which results in over-accommodation of guidance from them, whilst excessive self-focus due to anxiety about evaluation and high motivation to become a 'correct' therapist leads to assimilation of clients. This is reflected across all the domains. In level two the trainee over-accommodates client experiences which affects motivation, as they doubt the value of therapy, therapeutic models and their own competence. At this stage, the relationship with the supervisor is a conflict between dependency and autonomy. Case conceptualisation, ethics and interventions may become more difficult due to over-accommodating the client and resistance to the supervisor because of the dependency-autonomy conflict. By level three the trainee can balance accommodation and assimilation. They are independent, aware of the effect of the client on themselves and of them on the client. They have achieved integration of their personal and professional selves and are functioning effectively across all domains. Level four is not achieved by all therapists and represents an integration of skills which allows them to facilitate awareness in self and others. It is possible for a trainee to be at different levels in different domains and so the model is able to account for previous experience and individual difference. The IDM suggest that whenever a new area or skill is approached, a learner will progress through these stages but the pace of progress will vary between individuals.
The model also identifies the function of the supervisor at each level. In level one the supervisor provides structure, contains anxiety and acts as a role model, whilst encouraging development through appropriate risk taking and autonomy. In level two the focus is on working with trainee ambivalence, providing less structure and a more facilitative style to encourage autonomy. In level three the supervisor aims to facilitate consistency across domains and encourage integration of the personal-professional identity.

Beinart (2004) notes that there have not been adequate longitudinal studies to test the IDM. In a review of the evidence, Ellis and Ladany (1997) find support for trainees initially needing structure in supervision but increasing in autonomy over time. Much of the evidence is based on cross-sectional studies rather than longitudinal research, so the developmental increase in autonomy is implied rather than observed. This research is also complicated by evidence that it is a warm and empathic supervisory relationship that facilitates trainee development regardless of supervision structure (e.g. Friedlander & Ward, 1984). So whilst the IDM has limited empirical support, it makes intuitive sense and I feel it is useful in understanding my experiences of supervision and development as a psychologist.

My experiences in relation to IDM
The IDM explains some of the struggles I have experienced, especially around dependence on my supervisor and self-focus to the exclusion of the client. I feel that it reflects a model of practitioner development, which enables a supervisor to better understand their supervisee, which in turn guides their behaviour in supervision, rather than it purely being a model of supervision.

IDM suggests level 1 to 2 development is facilitated by the supervisor containing the supervisee's anxiety and modelling to them whilst encouraging risk-taking and autonomy. I think there are various factors that contain anxiety including seeing the supervisor as competent and an attractive role model, which fits with trainee perceptions of a 'good supervisor' (e.g. Sloan, 1999) and helping the trainee to develop their understanding in the theory domain. This may be a personal preference, but I have had four supervisors who did this and one who did not. I was more anxious
and found the placement and supervision less satisfactory in the latter case. I think this containment is essential because it is only when the anxiety is managed that it is possible to be aware enough of the experience to then reflect on it and so use the learning process. In the placement where a theoretical perspective was lacking it was much harder to learn as there was no framework to make sense of the experiences within. These learning experiences fit with Kolb’s (1984) model.

Within the structure of self/other awareness I have found I am able to focus on the client when reporting what happened, but then focus on what I should be doing next. Especially helpful was a supervisor who allowed me to observe her a lot and conversations we had about ‘dismissing the myth that there is a perfect therapist’. This was especially useful as I view her as competent, yet could see she was ‘ordinary’ with her clients. This is in contrast to my previous supervisor who did not let me observe her and I feel perpetuated the myth. I have also found feedback on my performance from supervisors helpful in focusing on the client. This is learning through modelling and reinforcement which can apply across all domains of the IDM.

My experiences of supervision so far are dominated by the structure Autonomy, or as is recognised in level one, dependency. As an assistant I developed some autonomy in very restricted areas. Over the last year of training, I have developed some autonomy in the domain of assessment because I have done more of them than anything else. I remain most dependent in interventions, needing my supervisor to help translate theory into practice. I think that repetition and having the opportunity to plan interventions for ‘similar problems’ helps increase autonomy and discussions with supervisors about general principles and adaptations of interventions, which then contribute to the learning cycle.

Role of ethics
The IDM has a professional ethics domain which interacts with the structures. I think that ethics have not generally had a high priority in supervision. This may be due, partly, to a focus on ‘what to do’ with the client, but Erwin (2000) reported ‘low moral sensitivity’ amongst supervisors, suggesting they are not attuned to ethical issues. I think many supervisors remain uneasy talking about issues of difference and
so ethical conversations do not extend beyond child protection or confidentiality concerns.

This may partly be because, until recently, I have only worked in areas where people are almost exclusively white British, which is the same as myself and my supervisors. However differences still remain such as social class, gender and sexuality. Where differences around these issues, or identification due to being very similar, have occurred I have found supervisors unwilling to talk about them and especially unwilling to talk about our own beliefs. I think this is a problem because at times I have felt supervisors have made incorrect assumptions about me, yet I have not been able to raise the issues. The importance of this has been highlighted to me when I have recently been working in a more ethnically diverse area and have been joint working with a Black-British systemic psychotherapist. We have talked about differences with clients, which I think has been essential especially when the family difficulties involved trying to balance Pakistani and British priorities. We have also talked about the differences between ourselves, how this affects the assumptions we make, and about how this affects clients responses to us as a therapist pair. I have found these conversations to be very interesting and liberating as they allow things which are socially unacceptable to be discussed and accepted or rejected as necessary e.g. the white middle-class family who directed most of their interactions to me despite my co-therapist leading the session. Although this experience has occurred outside the formal supervision structures it has been very important for both my ethical practice and learning through modelling and reflection. I think this shows a limitation of the IDM model, which seems to focus on sole practice with one supervisor whereas I think there are many valuable learning opportunities from being part of a team.

Conclusions about IDM
This model is a useful guide to practitioner development and informs a supervisor about the likely priorities given their trainee’s stage of development. It also explains some of the experiences of being a trainee, which is helpfully normalising. A difficulty with stage models is that they suggest ‘all or nothing’ development. I feel I
have developed a lot in the last year, but would not yet place myself in level two. This is a subtlety the model is not able to accommodate.

A Process Model

Hawkin and Shohet's (1989) process model focuses on the supervisory relationship using the supervisor-supervisee (supervision matrix), supervisee-client relationships (therapy matrix) and the work context. They view the function of the supervisory matrix as being to focus on the therapy matrix, but suggest that difference in the precise location of this attention account for different experiences of supervision, as shown in figure 2.

Figure 2. Process model, Hawkins and Shohet (1989)

The process model suggests attention to the therapy matrix through:

- Report of sessions and reflection
- Exploration of how the therapy matrix is reflected in the experience of supervision.

This then leads to six possible focuses for supervision:

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• **Reflecting upon the therapy session.** The supervisor aims to find what actually happened and clarify how the therapist's belief system affects the report they give. Attention is given to understanding the content of the session and links between sessions.

• **Thinking about strategies and interventions used in the session.** Exploring what was done, why and what the supervisee would rather have done. The aim is to see as many options as possible rather than giving advice.

• **Attention to therapeutic relationship and processes.** This is done through focusing on the relationship and the therapist's experience of being with the client, in order to identify what their behaviour and narrative is communicating, to identify the client's transference and help distinguish what the client wants and needs.

• **Discussion of therapist's counter-transference.** This may be related to a previous relationship, as a result of the transference role they are put in, attempts to counter the transference position or a projection from the client.

• **Exploration of how the therapy relationship is unconsciously played out in supervision.** This is based on the idea of parallel process (Searles, 1955 cited in Hawkins & Shohet, 1989) and involves the supervisor thinking about how they are experiencing the trainee and the narrative, and feeding-back to the trainee in an attempt to understand the client better.

• **Attention to the supervisor's counter-transference.** This involves the supervisor being aware of sudden changes in their feelings that are unexpected given their normal attitude to the supervisee. The aim is to explore these feelings with the supervisee, to better understand the client and the relationship.

Hawkins and Shohet (1989) suggest that all of these processes are needed for thorough supervision, but not necessarily in each session. It is the supervisor's responsibility to ensure they attend to all areas, as there can be a tendency to focus on a few preferred areas. The needs of different trainees will also affect which modes need to be most prominent. They suggest that new supervisees will need to focus on session content. As they develop the focus shifts to intervention skills and then the interpersonal modes predominate. However, different theoretical models of working
require different emphases. For example, a psychodynamic approach will need attention to process issues from the outset, whereas behavioural work may always remain more content focused. Therapy does not take place in isolation, so attention also needs to be paid to the organisation, professional requirements and ethics. I would also add the role of evaluation to this wider context.

My Experiences in Relation to Hawkins and Shohet (1989)

I think this model is useful as it focuses on the supervisor which is lacking in the developmental models. It provides guidelines for supervision sessions and then falls back on models of therapist development to explain how the focus should change over time. My experience suggests a weakness in the model is that it is easier to use in its entirety, with more dynamically oriented work.

My experiences of behaviourally, cognitively and psychodynamically focused supervision fit with Hawkins and Shohet’s suggestion that behavioural and cognitive work may remain more content focused whilst dynamic supervision will attend to processes from the outset. I think it is important for non psychodynamic work to pay attention to process issues, even if they are framed as our reactions to each other, as this will affect how the therapeutic relationship develops. It is also important to use these areas as they are more likely to lead to exploration of ethical issues, feelings and attitudes about difference which may lead to personal as well as professional development. I think the concepts of parallel process and supervisor counter-transference are also useful. In supervision of my psychodynamic work I have found that elements of therapy sessions are repeated in supervision, for example when working with a client who was quite overwhelmed by her problems and talked very fast without a coherent narrative, I would talk a lot more in supervision than normal, jumping from topic to topic and leaving my supervisor feeling confused, which was a replication of my experiences of the session. In this instance my supervisor was able to bring her experience of the relationship and of me into the discussion to help us understand the client more. I have only been aware of these experiences when working with my psychodynamic supervisor, but I think this is because we have not looked for them in other supervision, rather than them not existing.
This model does not explicitly address how learning takes place, which is a weakness. The implicit assumptions seem to be that new information will be both accommodated and assimilated through a process of modelling and guided questioning, as the supervisor is warned against 'giving advice' as at the beginning, trainee may take it in its entirety without question. There is a lot of space for reflection upon experience, and the exploration of interventions allows for these to be put into theoretical frameworks and for revisions to be made to practice in the light of this, again reflecting Kolb's learning cycle. In my experience of psychodynamic supervision, I learned through detailed discussion of cases, focusing on the content, what I did, and issues of transference and counter-transference, which showed me how to think within a general psychodynamic framework. These supervisions generally took the form of questioning by my supervisor, although she would tell me what to do for interventions which I 'swallowed whole' as I did not feel I had the knowledge to question. I think this also related to the lack of explicit theoretical base used in that placement.

The role of ethics
I think there is a lot of scope within this model to explore ethical principles, especially those relating to difference, through discussing the transference and counter-transference. This will involve separating the trainee's own beliefs from situational factors and looking at these in the supervisory relationship to use parallel process or supervisor counter-transference. Within this model I think it is important to discuss power differences which may result from the senior-junior professional roles of supervisor and supervisee, ethnicity or gender. Some issues of ethnicity have been touched on but I think it is important to pay attention to gender.

I have been supervised by both men and women and as a female have found them to be different experiences. It is difficult to separate out the influences, as when I was supervised by a man I was also an assistant and so in an even more subordinate role than as a trainee. However, I found my male supervisor to be even more directive with very little discussion of any issues of difference or my reaction to situations. I think a dynamic developed where we fell into 'father-daughter' roles, which, possibly reinforced the power differential, exacerbated the directive nature of supervision and made it harder to question or have discussion. This example also highlights the
importance of transference/counter-transference issues in supervision. I cannot see a way in which this could have been brought into the open, yet clearly it was not an appropriate dynamic. I do not think this issue is exclusive to cross gender supervision; equally a mother-daughter dynamic could develop. This does not fit with research evidence which suggests that it is not supervisor gender that influences supervisory interaction, but supervisee gender, with female supervisees experiencing more direction and less encouragement to be autonomous (Nelson & Holloway, 1990). My experience is that power differentials are often not expressly acknowledged in the supervisory relationship, yet need to be within this model if supervisees are going to be able to report back accurately, given the supervisors assessment role, and to be honest about counter-transference experiences and where these may interact with their own experiences.

Conclusions about the Process Model
Hawkins and Shohet (1989) provide a guide for the structure of supervision sessions. However, it is easier to use with psychodynamic work. It does not explicitly address the learning process and relies upon developmental models for this. The exploration of therapy sessions allows trainees to learn through discussion of theory and reflection, which, combined with the focus on what could have been done differently, allows for action to be revised hence participating in the learning process. This detailed exploration should lead to discussions of ethical issues, diversity and difference as the reasons for trainee thoughts and behaviour are explored.

Conclusion
Supervision has been discussed as a process which aims to increase the competence of junior members of the profession, whilst safeguarding the client. Clearly this has limitations when the DCP (2003) see supervision as a career-long process. Stoltenberg and Delworth's (1987) IDM model is useful for understanding how a trainee develops into a competent therapist, but does not provide much guidance to the supervisor on how to facilitate this. Hawkins and Shohet's (1989) process model provides a detailed guide to supervision sessions, but relies upon developmental models to explain the trainee's development. My experience suggests this model is easier to use for supervision of psychodynamic work as many of the modes will not be attended to in other therapy models. Hawkins and Shohet (1989)
seems more suitable for peer supervision than a developmental approach. Learning within both of these models has been set against Kolb’s (1984) model of experiential learning and social learning theory (Bandura, 1977) which both provide a guide to how to supervise and learn from supervision. An attempt has been made to discuss how ethics have been managed through the supervision process, but this has really served to highlight the way in which my supervision experiences have avoided these topics, perhaps due to the similarity between myself and my supervisors, excluding alternative voices. Familiarity with these models has helped me to value the supervision process more and I think that clarity about the purposes and processes of supervision could be important in helping to address ambivalence to supervision within mental health professions. However this is all based upon the assumption that supervision is useful (Davy, 2002). This needs to be more strongly evidenced, and suitable definitions and models of peer supervision must be developed, if supervision is to be embraced as a career-long activity.
References


The Relationship to Change

Problem Based Learning Reflective Account 1

March 2005
Year 1
From the title ‘The Relationship to Change’ my group chose to think about our experiences of becoming Trainee Clinical Psychologists. After much deliberation we titled our presentation “Our Experiences and Reflections on the Process of Transition to Becoming a Trainee Clinical Psychologist”. This piece of writing will summarise my experiences of the Problem Based Learning (PBL) exercise, explore the main things I felt I learned from it at the time, and how I now view both the exercise and my learning points in the light of my recent clinical experience. I have chosen to focus upon the things that I learned from it as I felt at the time these were quite significant and had clinical implications and so I wanted to explore whether these thoughts had been lived out.

The PBL task began on the second day of the course and felt like a mysterious and ill-defined task. During the first couple of sessions there was a great sense of pressure as we struggled to make decisions before we really knew what we were doing. We quickly chose to use the Stages of Change Model (Prochaska & DiClemente, 1983), with hindsight I think this was because we felt the need to have something certain to work with, did not immediately find any other options and felt time pressured. I found the first couple of sessions very uncomfortable, felt unable to contribute and wondered if I would survive these groups on a regular basis. Thankfully as we began to share our experiences of becoming a trainee I became more comfortable and feel I became an active member of the group. We then began to fit our experiences to the model. With hindsight we very much ‘crow barred’ them in, loosing much of the individuality and richness. At the time we questioned whether the Stages of Change Model was applicable to an experience that had lasted for some years and where the changes were in aid of an end goal (becoming a clinical psychologist) rather than of benefit in their own right. However, we persevered with it, I think for the sake of having something we felt confident in for the presentation.

From the discussions within the group three things impacted on me most. Firstly, change can be very costly experience: people had moved away from family and friends, given up promising careers with better salaries and more. This caused me to think about some of the costs of change for clients and that, although hopefully many of the changes would be beneficial, we are asking a lot of them. Secondly, change
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can have an unanticipated impact on those around us: partners having to move, relationships suffering as we devoted long hours to the process. This made me think about how the indirect effects on clients’ social networks may be even greater e.g. relationships being renegotiated as clients grow in assertiveness, behaviours that once formed the basis of interactions no longer happening or caring roles changing as clients’ functioning improves. Whilst these may be positive changes for the client, they may be difficult of those involved with them to accept and may again lead to change having greater costs than first anticipated. Thirdly, I was struck by how five people going through the same change could have such different experiences, with the same factor being a cost for one person, but a benefit for another. This made me feel apprehensive about whether I would be able to be flexible enough during therapy to truly see everyone as an individual and so take an appropriate approach.

Having only worked with people with severe learning disabilities, and never really having talked about personal matters with a stranger, I was very struck by the power of disclosure within the group, how it brought the group closer together and, I think, established relationships that have enabled honesty within the subsequent case discussions. Knowing that I was about to start working in a one to one therapy setting I wondered about the intensity of that relationship, but also how it would be different being very ‘one-sided’, disclosure only being from the client. In addition to these ‘formal learning points’ I think that being able to explore my journey to getting on a training course was very helpful in accepting the changes that I had undergone, especially moving to an area where I did not know anyone, and enabled me to settle into the course and life here more quickly than I perhaps would have done otherwise.

Looking back on our approach to the exercise and my questions after it with the benefit of nearly four months clinical experience I have mixed views about it. I think our need to settle on a model to use quickly was understandable at the time, but I am not sure the Stages of Change Model best describes the process of therapy. I think I envisaged therapy being the Action stage, but now feel it can be more about preparation and motivation to change, as well as facilitating the actual change. Clients sometimes have clear ideas about their need to change, have tried to do it on their own, but have not succeeded. For example a woman with Bulimia wanting to
stabilise her eating patterns, perhaps placing her in the action stage, whilst other are vaguely aware of a need to do something differently but do not know what this is e.g. a woman thinking her relationship difficulties possibly contribute to her depression but not being sure how, let alone what to do about it, placing her more in the Contemplation / Preparation stages.

I think its appropriateness can also vary with setting. In Primary Care, my clients so far have had clearly defined problems which they have specifically sought out help to change e.g. distress at going red in social situations. Where as in the CMHT they seem to be referred for more generalised problems resulting in ‘not coping’ and want help ‘to cope’ rather than initially wanting to change per se. The Primary Care clients seem to fit much more clearly with the model than those in the CMHT, although this perhaps reflects starting the work at a different stage, as already discussed, and is appropriate to the different time frames in the services.

Whilst the model does allow for moving backwards, I do not think that it can really take into account the ‘messiness’ of therapy. It does not seem to account for the different components of a situation, appearing to just focus on the original behaviour e.g. the woman with Bulimia who is prepared to try and change her eating patterns, but is not prepared to think about changing the controlling relationship with her mother that triggers episodes of impulsive behaviour and so seems to need to be addressed if she hopes to maintain the eating pattern change. This particular example also strengthens my thoughts about the unanticipated effects of change and the high costs we ask of clients, which in turn increases my respect for people who embark on this process. I think these feelings about the ‘messiness’ of the model and its applicability to Primary Care verses CMHT are influenced by the different models I currently use in the different settings. My Primary Care work is CBT (e.g. Beck, 1970) based, which is a very practical, purposeful approach which I feel comfortable with because I can read a book which at least tells me what I should be doing (even if actually doing it is somewhat harder!), where as in the CMHT I am using a psychodynamic approach which seems to be learned through a much more trial and error method. Whilst I can see the value and use of this approach, it is a much more uncomfortable and insecure process for me as a trainee. I think I am less confident in
my ability to do the psychodynamic work because it is less directed and this influences my view of its fit with the model.

This desire for certainty is seen in the way we chose the model and how I feel about my clinical work, but this is something I need to be very wary of. During the PBL exercise we forced our experience to fit the model and in CBT, where there is often a clearly defined model, I think this can be a temptation too. Yet this is dangerous because, not only does it stop the client being treated as an individual, it also runs the risk of ignoring significant factors in formulation and subsequent intervention, which could be detrimental to the patient. I hope these pressures will dissipate with experience as I become more confident in my abilities, but I think they will always remain a tension when Clinical Psychology, is rightly, under pressure to be evidence based and theory driven, as they in some way justify your work.

The point that remains is the power of disclosure within the one-sided therapeutic relationship. I have found I am more comfortable than I expected with the one-sided relationship, it does not feel as false as I expected. Yet, I can see that clients are sometimes uncomfortable with it as they ask how I am or where I have been on holiday. The more client contact I have the more I am amazed at how open people are in what they say, and I wonder what it would be like to be on the other side of the room with someone thinking about what you are saying, interpreting and challenging it. This has kept me coming back to the idea of having some therapy myself. I have not acted on this yet, partly because I feel I would be a fraud going ‘just to see what it is like’ but partly because of time and cost too. This is something I will keep thinking about because I think the experience of what it is like to be in such a one-sided relationship would give me a greater empathy as well as respect for the client in what I suspect can be a difficult relationship.

The main things that seemed important to me following the PBL exercise were the high costs of change, the unanticipated consequences of change and the individuality of change. The first two I have found to be areas that have needed addressing with all of my clients so far. I have not yet seen two people with ‘the same problem’ so I am not able to comment properly on individuality, but in case discussion group when we
have talked about 'the same problem' there have been huge variations between clients which makes me think this is a relevant point I will come back to in the future. Even as I wrote this I found my view of the usefulness of the Stages of Change Model changing, initially I did not think it was particularly applicable to therapy, but I now think I had missed some of the flexibility in it and was seeing therapy as the Action stage rather than the whole model. I am now back to thinking, as I did during the PBL exercise, that it is quite a useful descriptor of the change process. I think the main weaknesses in using this for the PBL exercise and so to understand change, is that it does not capture the 'messiness' of change. Overall in the PBL exercise I think it was useful to focus on the change to being a trainee as it helped me, and others in my group, acknowledge the changes we have been through. If we were to do this exercise again I would like to spend more time looking for other models of change to see if there are more appropriate options, and I hope we would be more able to accept that not all our experiences need to fit neatly into the model for it be useful and be prepared to risk saying that.
References

Child Protection, Domestic Violence, Parenting and Learning Disability

Problem Based Learning Reflective Account 2

Year 2
March 2006
The problem focused on two young girls who had been placed in foster care due to concerns about the ability of their parents to adequately care for them. Their mother was known to have learning disabilities and it was possible their father did as well. In addition to physical neglect there were concerns that the children had witnessed domestic violence. The Local Authority wanted to place the children for adoption whilst the parents wanted to continue to care for their children. A clinical psychologist was being asked to conduct a risk assessment. As my group discussed this scenario we became aware of how different the psychologist’s role was to the therapist role we had adopted for the previous year, and recognized our discomfort with this. We wondered whether it was possible for a psychologist to remain positive, person centred and solution focused when a court case required a definite answer to a problem. We felt that if it was not possible to maintain this position, which could be different to other professionals involved; then the psychologist risked becoming yet another part of the problem. There seemed to be a lot of dilemmas to think through before even deciding to take the case on. Consequently we decided to take the position of a clinical psychologist new to this type of work and explore the dilemmas involved in undertaking child protection work. This reflective account will focus on my experience of the exercise; explore what I learnt from it at the time, and how I now view my learning points in the light of recent clinical experience.

As the task began we were aware of only having three sessions and so quickly settled into assigning group roles and brainstorming around the task. As the ideas outlined above emerged we allocated tasks to help us find out more about the court system, the role of a psychologist in court, the child protection system, the literature on parents with learning disabilities and the effects of domestic violence. During the second session our regular facilitator joined us and we really appreciated the way she helped us to think about what it was like to have her join us part way through the process, and for her to join us at this stage. This was the first time I had experienced such a transparent approach and it was a good experience of the different approach taken by someone who mainly works with groups compared to someone who mainly works with individuals. We spent this session identifying the dilemmas we wanted to raise. The third session was spent finalizing the presentation. At the time it felt as though this process was very rushed and we did not have enough time to get an understanding of the issues. I think this is partly why we chose a presentation which was based on
reflection rather than fact. It was useful to think about the issues involved in this type of work and hopefully will prepare us for future decisions about working within statutory systems. Perhaps it would have been of more practical use to think concretely about the effects of domestic violence or having parents who have learning disabilities but this is a strength of the PBL system because we heard other presentations which took that slant.

Three things stood out from the PBL exercise for me: firstly the question of whether a psychologist can maintain a stance of looking at strengths and advocating for safe risk taking (Sellars, 2002) as well as being realistic about the problems when the system is problem focused and contemporary society would like to believe that all risk can be avoided if the right precautions are taken. I wondered whether it is grandiose to imagine psychology can do this better than other professions and how it could be achieved in practice. Secondly I was struck by the way the system is asking you to predict the future. We cannot tell how personal circumstances will alter or policy and funding decision will change; yet we are trying to make decisions that take this into account. This seems particularly relevant if it is decided that children remain with the parents, as although they might manage now how will they manage when the children are older? This resonated with me as I believe that people with learning disabilities can be supported to be good parents, and this is often better than growing up in care. Support is costly and it does not currently seem possible to plan to fund support long-term. The financial costs of having a child in care seem to be ignored as are the psychological costs even when we know that children who grow up in care have very poor outcomes (Every Child Matters, 2003). It is also possible that we may just be setting families up to go through the process again at a later date. The third thing was my experience of being the chairperson. I found the role difficult because I wondered if it made my opinion more influential than I thought it should be. I felt uncomfortable and it elicited worries in me such as ‘they’ll think I’m a know-it-all and won’t like me’. Clearly this position tapped into my substantial pre-existing social anxiety, but it made me aware that I need to challenge these thoughts otherwise it is going to make contributing to team meetings or, in the longer term, taking on leadership / management roles more difficult.
Since the PBL exercise I have been working in a Child and Adolescent Mental Health Service (CAMHS) and have not been involved with any child protection work. I attended an Area Child Protection Committee training day on child protection awareness and recognition which made me think again about the PBL exercise. This day had people from many different professions and it struck me how differently we understand and approach things. We discussed different scenarios and whether we would be concerned about the children in them and I came to see that although we might all be concerned about the same children our responses would be different. Clinical psychologists might work in the 'grey area' between obvious child protection concerns and adequate parenting, so working with the family rather than immediately making a child protection referral. Other professionals, such as teachers, appeared to make referrals straight away because they could not have any involvement in the situation outside school. Scenarios discussed included being concerned that a mother with learning disabilities seemed emotionally distant from her child or a boy being bullied at school over his political views. It seemed to me that there would be space for clinical psychologists to work in both situations. In the first, with the mother to think about how she felt about the baby and helping her to learn how to play with it, before making child protection referrals, and in the second case talking with the school about what was going on. This does not mean that a clinical psychologist does not share their concerns with others or seek the involvement of people such as health visitors or the school, but rather that we are in a position to intervene and help monitor rather than immediately subjecting a family to child protection investigations. This is what happened in my adult placement when I was seeing a woman for anger management and found that she sometimes hit her son when she lost her temper. Through discussion with my supervisor I talked with the health visitor, who met the family regularly to monitor the situation, whilst I did some anger management work. The health visitor's support continued once my involvement was finished. I wonder if the difference is that other professions act where they believe a child to be in imminent danger e.g. being physically or sexually abused, but clinical psychologists have the luxury of being able to take a holistic and involved approach in cases of non-immediate danger before making a referral? I think this relates to the PBL exercise as we reflected on the huge impact a child protection investigation can have on the parents' confidence and the child if they are separated from their parents, as well as the fact that life in care in not ideal either. This makes me think that although child
protection referrals are absolutely essential, they should not be initiated without careful thought.

This training day also helped me to realise how much 'power' a clinical psychologist has in the eyes of other professions. Even as a trainee, who is not particularly confident or charismatic in groups, the other people looked to me to lead discussions. As in the PBL exercise I was aware of possibly having undue influence on the group, compared to my feelings of inexperience and this led me to try and take a facilitative role rather than giving my opinion. Interestingly this did not evoke the same social anxiety thoughts and feelings as the PBL exercise. I think this is partly due to them casting me in my professional role. With fellow trainees although I remain a professional I am also a peer in a training role which expects us to lack knowledge, so I feel I should be in that 'lacking knowledge' role. This experience makes me more confident about my ability to function as a team member in the future as I will have that expected role to fulfil. The training day showed me that clinical psychologists do 'see the world differently' to other professions which makes me hopeful that I might be able to maintain a less problem saturated stance in this kind of work.

Experiences so far have not allowed me to resolve my queries about whether child protection work requires us to 'guess the future' too much, but I was again struck by how powerful the system is when I was involved in the assessment of a mother and son who was on the child protection register and had been referred by their social worker. Neither mother nor social worker had specific difficulties they wanted addressing and the mother guessed they had been referred to CAMHS to help the son at school. On investigation the school had no concerns either. The mother explained that because she wanted the care order lifting, she had to attend the appointment even though she did not think she needed it or it would count against her. It struck me what a powerful effect the system has to control people's behaviour, which reinforced feelings that whilst we need this system to protect children, professionals must use this power responsibly.

My group discussed the dilemmas a psychologist may face in deciding whether to become involved in child protection work, but at the end of the PBL process we did not make a decision. My clinical work has not forced me to answer this question, but
I think my recent experiences have moved me towards a position where I would become involved. My experiences have highlighted that clinical psychologists have a lot of power, whether we want it or not, and if we work with children or adults who are in distress we will be involved in safeguarding the welfare of children, even if it is 'just' helping parents with their emotional difficulties so they are able to be available for their children. Having heard other professionals talk about child protection issues I would want psychologists to be involved as I think our training in taking multiple perspectives, looking at strengths as well as weaknesses and reflecting on what is happening puts us in a good position to be able to step back from the process and balance the clients concerns with safety concerns. I think this allows us to bring a helpful dimension to the process alongside the essential work of other disciplines, hopefully contributing to this power being exercised responsibly.
References

Older People, Ethnicity and Culture

Problem Based Learning Reflective Account 3

Year 3
February 2007
The problem based learning (PBL) exercise focused around a 72 year-old man, Mr Kahn, who had been referred to services due to concerns that had been raised by his daughter about his memory and ability to perform daily tasks such as cooking safely. Mr Kahn had lived in England since his mid 30s, having been born in Pakistan. Mr Kahn had two daughters; one had married and lived in Pakistan; the other had been estranged from the family after marrying a European man, but had resumed contact following the death of her mother 9 months ago; this daughter made the referral. Mr Kahn severed links with his local mosque due to their response to his wife’s death, however he maintained his devotions at home.

We approached this task in a different manner to the ones before. We discussed our initial reactions to the scenario and identified what we thought were key areas. Initially we were very focused on the family dynamics, talking about the apparent complexity of the situations and hypothesising about motivation behind the referral and the influence of cultural factors such as what was viewed as ‘normal aging’ and was it significant that it was the ‘westernised’ member of the family who was seeking professional support? However our facilitator then asked ‘what would be the role of the clinical psychologist in this?’ and this changed our focus entirely. It felt as though the discussions we had been having were very interesting, and could be informative, but they were not focused on the issue the referrer wanted assistance with, and were not necessarily going to directly inform what we did clinically. We proceeded to develop alternative hypotheses for the behaviour described. During this session we decided to research each of these positions and do our presentation based on the ideas of differential diagnosis. Each group member took a hypothesis to investigate before feeding back to the group. We only met on two occasions to discuss things further before a ‘dress rehearsal’ and these meetings were about informing others what we had found and making sure we did not overlap in our presentation.

This was in marked contrast to our previous PBL exercises where we had appointed a role to everyone in the group: chair, secretary, timekeeper, facilitator or group member. Previously the process of moving from initial thoughts on the scenario to a firm presentation plan took a number of sessions and there was a lot more discussion of the information that had been found by each group member. On this occasion there
was more of a sense of individuals working in parallel to create a presentation rather than a group working together on it. Our focus on differential diagnosis probably made this easier as it was much more concrete and clinically focused, rather than purely reflective as previous presentations had been. This focus was discussed during the first session and we felt it would be good experience to take a more formal approach, but I think we also continued in the vein set by our facilitator because it seemed more simple and structured in the face of a complex situation.

It is very interesting that our focus moved from being almost entirely on the family relationships to quite technical issues of differential diagnosis. During the reflections at the end of the presentation we said it felt like we had ‘lost’ Mr Kahn and his family in this topic. After first reading the scenario we shared our initial reactions and everyone spoke of feeling overwhelmed by the number of possible factors, as well as a number of strong reactions to various family members ranging from pity to irritation. As we discussed the situation the ideas and possibilities seemed to multiply rather than becoming clearer. I wonder if choosing to focus on ‘facts’ rather than the wider complexity of the case was an attempt to make the situation manageable. Clearly this has clinical parallels as we often work in complicated situations and if, in an attempt to ‘make them manageable’ we reduce the situation to its component parts whilst ignoring the interaction between them, this will be unhelpful. However if the amount of information given about the situation causes the issues to be lost then the reduction is necessary. This seems to be where reflection and supervision are needed to maintain the correct balance.

Other factors undoubtedly influenced our decision to approach the task in a more structured way. We all had a lot of competing demands on our time including research, finishing placement and assignments and so the prospect of something concrete and contained, which would not require too many meetings to put together, was appealing. When we reflected on this in the presentation it was questioned as to whether we had allowed practical constraints to stifle our creativity and, it was implied, effort. However, I think this reflects reality. We work in an environment where resources are limited, be they money or time, and it is rarely possible to do things exactly how you would like to. The feedback from our presentation showed it
was ‘good enough’, in fact often being described as ‘excellent’, and this seems an important lesson for future clinicians to learn. Whilst we strive to be excellent, there are times when we need to learn to be content with ‘good enough’ and this is a particularly important lesson for a group composed of people who are high achievers, with high personal standards. So, in many ways, to approach the task in a way that enables you do a good job and fulfil your other roles as well must be good preparation for working as a qualified psychologist in the NHS.

An additional possibility is that our attitude to the task reflected that of society’s view of older people and this worries me. Society in general does not value older people, especially those who require support from family or services. Often they are viewed as an inconvenience and a drain on resources, and it could be said that this is how we viewed the task. I know for myself there was an element of ‘I know I don’t want to work with older people and I have better things to do with my time than this task.’ Devaluing the task because of the client group was not, I am sure, a conscious motivation but it is very interesting that the way we ended up approaching it reflected a more diagnostic, medical model, which ‘lost’ Mr Kahn and his family and this seems to reflect many services for older people. I have not yet done my older people’s placement, but this task, the traps we fell into whilst doing it and the reports from colleagues who are currently on this placement has not made me feel more positive about it.

I clearly have a strong reaction to services for older people and I have thought it important to try and work out where this comes from. The most obvious connection is that three of my grandparents have had a lot of involvement from services, for both physical and mental health difficulties, and these have often seemed dehumanising, disrespectful, patronising, disabling and under-resourced. I do not want to be part of services like that. The experiences colleagues have reported from placement suggest that it is very difficult for psychologists to stand against this attitude, and I think this would be particularly difficult as a trainee. This has caused me to wonder about the process of organisational change. Services for people with learning disabilities were revolutionised as a result of the writing of people like Wolfensberger (e.g.2000) but I have not been able to find how these ideas were embraced by services on a large scale.
and implemented. It is a very interesting question as to why the same ideals have not been taken up by services for older people. Psychologist must be able to contribute to a process of change given our experience of working with staff teams. This role would also fit with the possible development of the clinical psychologist's role under New Ways of Working.

This is one reason, but there is definitely an element of my attitude not being what I want it to be, and I am not sure why this is so and why it is so different to my attitude towards people with learning disabilities, who are probably viewed even more negatively by society. I wonder if part of it is a lack of experience of older people; my grandparents live a long way away and I have never seen them very often. But I also think there is a strong element of 'this is my future' or the future of my parents. I do not have theoretical or social models that value aging as something positive or examples of 'aging well' and so that future is a scary prospect. It is easier to avoid the subject by avoiding the client group. I would like to think that my older people's placement will give me the opportunity to meet people who can help me to see aging positively and who are examples of 'aging well'. Unfortunately I have doubts that these attitudes are common in services, or that people who are 'aging well' come into contact with services. Hopefully even if this is not my experience on placement then I will be able to use resources from colleagues who have those positive role models and so learn more about this area which has the potential to be personally, as well as professionally, beneficial.

There are many other issues that I could have talked about including how I would think about the cross-cultural aspects of this scenario differently in the light of recent placement experience, or the uneasy way that religion was talked about in my group. But I chose to talk about the way the task influenced our actions, and my personal reflections on this because I think they are things that could be important in future work within teams and for my own development on my next placement.

Whilst doing it, the PBL exercise felt squeezed by everything else that was going on around it. With hindsight it was a valuable lesson that sometimes it is necessary, and alright, to do things to a 'good enough' standard, but it also allowed the opportunity to
reflect on how time pressure can affect the way we approach a task. The complexity of the task may also have fed into the very structured way we approached it and this has shown me how our thinking can become narrowed in an attempt to cope with difficult issues. This seemed to be a very powerful process, which may be linked to the client group as it strongly reflects what colleagues have reported about older people's services, and my experience with relatives. I find this an uncomfortable fact as it exposes some of my attitudes to this client group which are good, such as not wanting to collude in disrespectful services, but it also highlights attitudes that I am less proud of, such as feeling I do not know how to relate to them, a negative view of aging and wanting to avoid this group so I do not have to face my own possible future. In the light of this I hope that my older people's placement can be used to develop more positive understanding of the aging process.
References

Year 1 Case Discussion Group Process Account Summary

September 2005
Year 1
This account of the case discussion group (CDG) process described the way our group decided to work and how effective it was, factors that influenced the group's development and how the CDG has influenced my clinical practice. Since I did not feel that our CDG was an entirely successful enterprise possible reasons for this were also explored.

The initial PBL exercise provided a good opportunity for the group to get to know each other before beginning case discussions. The group chose to have two people present one of their cases each week and to rotate between us hoping to look at different theoretical perspectives on the cases as well as reflecting on issues related to the case. Over the year we discussed cases of bulimia, anxiety, depression, personality disorder and OCD.

The group changed and developed over the course of the year, however we struggled to become a place of open discussion and ideas sharing; reasons for this including geography, personality and time available together were suggested and the failure of the group to discuss these with the facilitator was raised; the way in which the group change over the year was mapped. My position as the only person in the group working in a particular model was explored and I reflected on how this changed over time. I particularly benefited from discussions within the group about working with older people, the effect of working with people with eating disorders on ourselves and hearing about different ways of working; the clinical implications of these were outlined. I found writing the process account beneficial as it increased my understanding of the group and the importance of reflection and allowed me to think about what could be done to improve things.
Year 2 Case Discussion Group Process Account Summary

Year 2
July 2006
I had found the experience of CDG during the first year often frustrating and so wondered if this year would be any different, but I also saw the great potential of the group to be a place of support and personal and professional development, and hoped this year would be different. Much of the process account was devoted to trying to understand the group’s functioning.

We decided to move from having a rota of two people presenting cases each week to building an agenda at the beginning of each session of issues people want to raise as we hoped this would facilitate discussion. The CDGs started at a similar time to our new placement, which meant people did not have clinical issues to discuss; this set the tone for much of the subsequent discussion, as professional issues were more prominent than they had been the previous year. The change of facilitator impacted our group and the different focus this brought about was described. There was great variety in models and client groups on placement amongst our group, which brought richness to the discussion. One session was devoted to exploring our own learning style (Kolb, 1984) and this had profound effects on my understanding of my position in the group and the course as a whole, which are described in relation to my personal learning and professional identity.

The group still frequently struggled to discuss things productively and this was explored using the theme of ‘protecting each other’ and then considering Johnson and Johnson’s (1998) framework for effective group functioning. Reflecting on the influences on the group process led me to consider dual-relationships both in training and clinical practice. Finally, suggestions were made for improving the group functioning, which included a greater focus on discussing group process.
References


Clinical Dossier

CLINICAL DOSSIER
Clinical Dossier

Summary of Clinical Placement Experience
Clinical Dossier

Adult Mental Health Placement


Clinical Experience: This was a year-long placement comprising of 12 months with the CMHT and 6 months each with the PCMHS and Hospital, combining community, GP surgery-based and in-patient work. My clinical work was formulated and carried out within psychodynamic, cognitive behavioural and integrative frameworks. I undertook initial assessments for psychological intervention, cognitive assessment and brief and longer-term psychological interventions with individuals from ages 18-75, mainly of white British ethnic origin. Presenting problems included depression, bulimia, anxiety, health anxiety, social anxiety, consequences of sexual abuse, bi-polar disorder, drug-induced psychosis, anger management and obsessive-compulsive disorder. I also undertook a carer’s assessment and planned and co-facilitated a CBT-based group at a day-hospital. Assessment tools included the Wechsler Adult Intelligence Scale, the Wechsler Memory Scale and Wechsler Test of Adult Reading, the Beck Depression Inventory, the CORE-Outcome Measure. During the placement, I attended MDT meetings and psychology meetings, where I undertook case presentations. I also visited and liaised with other professionals and services including Health Visitors, GPs, an Eating Disorders Service, a Head Injury Service, a Recurrent Depression Clinic and a Family Therapy service.

Child, Adolescent and Families Placement


Clinical Experience: This placement provided me with experience of working in a CAMHS team for children aged 3-14. My clinical work was formulated and carried out in behavioural, cognitive behavioural and systemic frameworks. I carried out psychological assessment and intervention with individuals, families and schools, and cognitive assessment with individuals from a variety of cultural backgrounds. I participated in specialist ADHD and Autism assessment clinics, and was part of a family therapy team. Presenting problems included: bereavement, anger management,
feeding difficulties, behaviour difficulties, consequences of sexual abuse and autistic spectrum disorders. Assessment tools included the Wechsler Intelligence Scale for Children, the Wechsler Pre-school & Primary Scale of Intelligence, the Beck Youth Depression and Anger Inventories, Spence Anxiety Inventory, Parenting Stress Index and the Strengths and Difficulties Questionnaire. During the placement I attended MDT and Psychology department meetings, visited schools, community and assertive out-reach services for adolescents, and completed child protection training.

**People with Learning Disability Placement**


**Clinical Experience:** This placement provided me with experience of working in a CTPLD with people aged 18-67. My clinical work was formulated and carried out in behavioural and cognitive behavioural frameworks in the context of complex systems. I worked with individuals, carers and staff teams, carried out training with staff teams and undertook cognitive and behavioural extended assessments; assessments and interventions were carried out in a variety of settings including day centres and residential homes. Assessments drew on information from a variety of sources including informant interviews and direct observation. Clients had mild to profound learning disability and experienced a range of difficulties including autism, communication difficulties, behaviour problems, alcohol abuse, the consequences of sexual abuse, difficulties parenting and inappropriate residential placements. Assessment tools included Wechsler Adult Intelligence Scales, the Adaptive Behaviour Assessment System and elements from neuropsychological batteries including the DKEFS, VOSP and Rivemede.

**Advanced Competencies Placement: Child Learning Disability**


**Clinical Experience:** This placement provided me with experience of working with children and young people aged 3-16 with mild to profound Learning Disability, from diverse cultural backgrounds. My work was formulated and carried out in behavioural, cognitive behavioural and systemic frameworks and took place within
complex systems. I worked both alone and jointly with MDT members carrying out extended behavioural and cognitive assessments and interventions with individuals and families. Work was carried out in client’s homes and schools as well as the clinical; I worked with interpreters and liaised closely with social services and schools on child protection issues. Clients presented with challenging behaviour in the context of autism, communication difficulties and Learning Disability, headache, anxiety/anger management, feeding difficulties and risk of sexual exploitation. Assessment tools included Wechsler Pre-school & Primary Intelligence Scale, Merrille Palmer Scale of Mental Tests, Symbolic Play Test and Parenting Stress Index. I attended training on child protection, risk assessment and service provision.

Older People Placement


Clinical Experience: This placement provided experience of working in stroke and orthopaedic in-patient rehabilitation services, a general medical ward and the Alzheimer’s Society, with people aged 44-96. My work was formulated and carried out within a cognitive behavioural and rational emotive behaviour therapy framework. I carried out assessments and interventions with individuals on the ward, at day hospitals and at their homes; presenting problems included depression, anxiety and fear of falling. I planned and co-facilitated a reminiscence group for people with dementia at the Alzheimer’s society and undertook consultation to a general medical ward regarding assessment of psychological needs on the ward and future possible psychological input. Assessment tools used included the Hospital Anxiety and Depression Scale, the Brief Assessment Schedule Depression Cards, the Mini Mental State Examination and the Falls Efficacy Scale. I attended training on the Mental Capacity Bill.
Cognitive Behaviour Therapy with a 75 Year-Old-Man with Health Anxiety

Adult Mental Health Case Report 1

Year 1
May 2005

The names used in this report are fictional and some of the details have been changed to preserve anonymity
Referral / Presenting Problem
Robert Bams, a 75 year-old-man, was referred to the primary care mental health service (PCMHS) by his GP for anxiety about his health, which had stopped him exercising. Robert reported having experienced palpitations for many years, but 18 months ago they had become more frequent and he began to notice other sensations and pains in his chest and arms. Despite medical investigations and reassurance that there was nothing wrong he continued to worry; he thought the feelings would not pass and that he would collapse or die. When this happened he felt anxious in his stomach and was preoccupied by the thoughts, he did not report any other physical signs of anxiety. The physical sensations only last for a few seconds but the anxious thoughts and feelings remain for up to an hour afterwards. This has led Robert to stop going for walks and playing golf. He will no longer plan to do things in advance in case he does not feel up to it on the day, and does not like to go a long way from home. He thinks that physical activity may make things worse. When he has an anxiety episode he will sit and rest.

Robert is of white British ethnic background and his first language is English.

Assessment
The assessment was carried out in one face-to-face semi-structured clinical interview between Robert and myself; focusing on Robert’s current symptoms, their development and impact on his life and relationships. The CORE-OM was used to give a standardised assessment of his mood and possible risk issues. Robert scored 33 on the CORE-OM (Evans et al., 2002), which is just below the clinical cut-off level and indicated that, although he experienced some distress, Robert was functioning well. He scored 0 on the risk assessment sub-scale. Following the assessment, I reflected on the age and gender difference between myself and Robert and the reality of health concerns given his age and how these might influence our work together.

Initial Formulation
Warwick and Salkovskis’ (1990) model of health anxiety is useful in understanding Robert’s difficulties, although there was some overlap with Clark’s (1986) model for

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1 The report uses the first person to aid description of the process and reflection
panic. He appears to have developed beliefs about sensations in his chest area indicating a problem with his heart, which began when he noticed a longstanding irregular heart beat happening more frequently; he believes sensations in his chest indicated a heart problem which will lead to him collapsing and dying. Having these thoughts leads him to feel anxious. These beliefs may be reinforced by the physical symptoms of anxiety such as shallow breathing increasing the discomfort in his chest. Hypervigilance and selective attention to his chest area maintain his beliefs and he seeks reassurance from his doctor and repeatedly requests medical investigations. Significant avoidance also appears to maintain his anxiety: he has stopped playing golf and going for walks in case exercise makes his heart worse and he will not go far from home in case he collapses and his wife cannot get home. He engages in safety behaviours such as sitting down and resting when he experiences chest discomfort. Both the avoidance and safety behaviour prevent his beliefs being disconfirmed.

**Intervention**

I met with Robert for five sessions of cognitive behaviour therapy based on the approach outlined by Wells (1997) for health anxiety. Goals for therapy about taking up activities he had stopped were agreed. I introduced the CBT model and formulation and we carried out a number of behavioural experiments to demonstrate the link between thoughts, feelings and behaviour and the role of hypervigilance in health anxiety, to provide an alternative explanation for his symptoms. The intervention began with psycho-education about anxiety and its maintenance and then moved onto behavioural experiments aimed at stopping avoidance and safety behaviours to disconfirm his beliefs and allow habituation to anxiety. Robert found alternative explanations for his experiences very hard to accept and decided to go back to his GP to request further investigations despite discussion about the role of reassurance seeking.

**Outcome**

Robert scored 50 on the CORE-OM after therapy, an increase of 17 points taking him into the clinically significant range. He had partially met one of his goals but still firmly believed that there was a problem with his heart and could not accept that his anxiety provoking beliefs could lead to him experiencing physical symptoms. The
main reason for this lack of success seems to be that Robert could not accept that physical symptoms could indicate anything other than a physical illness.

Reformulation
Although this intervention did not remove Robert's health anxiety, Warwick and Salkovskis' model is still an appropriate explanation as the intervention provided additional information to confirm it.

Critical Evaluation
Reasons for the intervention not being successful were discussed. They included consideration of Robert's age and willingness to consider a psychological explanation for physical symptoms. The role of supervision and alternative management strategies were considered. Whilst we developed good rapport, I do not think the relationship was truly collaborative as Robert was reluctant to suggest things himself and tended to look to me for ideas. This was explored by considering Robert's beliefs about health professionals and my concerns about balancing challenging his health beliefs with realism about declining health in older age. Wells (1997) identifies that engagement in treatment can be difficult for health anxious people and that treatment gains are only usually seen after a greater number of session than was available here; maybe longer was needed to socialise Robert to a completely new way of thinking. If therapy had continued beyond his next medical consultation, evidence from this could have been used in the session. Behavioural stress management (Clark et al, 1998) is also effective for health anxiety and may have been more acceptable to Robert as it does not challenge the client's belief that they have a particular illness. Consent was obtained to write up this case report.
References


Psychodynamically Informed work with a 24 Year-Old-
Woman with Bulimia Nervosa

Adult Mental Health Case Report 2

Year 1
September 2005

The names and places used in this report are fictional and some of the
details have been changed to preserve anonymity
Referral / Presenting Problem

Verity Moss, a 24 year-old-woman, was referred to the Community Mental Health Team by her GP for Bulimia Nervosa, excessive spending, depression and excessive drinking; A CPN continued to see her during therapy. Verity reported having Bulimia since age 12, around the time her mother remarried. It was at its worst whilst she was at university and was now confined to excessive eating most mealtimes before vomiting. Before meals Verity experienced a sense of panic that the food would not be available later. She ate rapidly and lost awareness of what she was doing. She was dissatisfied with her weight but she was not pre-occupied by weight or bodyshape, she did not restrict food intake and was not dieting. Verity also has difficulty controlling spending, previously used alcohol excessively and had risky short-term relationships; she feels these behaviours all had the same underlying feeling of panic. Verity has been diagnosed as depressed for about five years, which she related to having “made a mess” of her life. Verity is of white North American origin but has lived in England since the age of two. She is well educated and English is her first language.

Assessment

My\textsuperscript{2} supervisor led the first face-to-face assessment, which I observed. I continued the assessment in a second session alone with Verity. The assessment sessions covered Verity’s view of the problems and her early life, details of the bulimia, and goals for therapy. Verity is the same gender and a similar age as me and works in a training position. I think this facilitated building a relationship quickly but during the assessment sessions I was aware of the thought “that could so easily be me” which reinforced the need to be vigilant about boundaries and not to make assumptions. Verity had previously had CBT for depression, but disliked the structured approach. Verity completed an eating diary to monitor progress and facilitate talking about eating; during the first week she reported over-eating at every meal and vomiting between three and five times per day. No risk issues were identified.

Initial Formulation

The ideas of Winnicott (1965) and Bowlby (1967) were useful in understanding how psychological distress may arise as a consequence of maternal unavailability during

\textsuperscript{2} This report uses the first person to aid description of the process and reflection
infancy. Johnson (1991) suggest bulimic symptoms may arise from an unresponsive care-giver to defend against anxieties associated with the stage of the separation-individuation process at which the person is ‘stuck’. In Verity’s case, her mother may not have been sufficiently available to her during this crucial stage due to her husband leaving and the move to a different country.

Malan’s (1995) triangles of insight and conflict were used to understand Verity’s current difficulties: Verity’s defences of bulimia and excessively high standards may protect against fears of being exposed as a failure, with the hidden feeling being that she might be rejected by her mother (conflict: defence, anxiety, hidden feeling). Currently her only significant relationship is with her mother who she experiences as critical and controlling, yet Verity continues to allow her mother to control many aspects of her life. This tension between wanting to be controlled, but resenting it, may be repeated in therapy (insight: current, past, transference).

**Intervention**

The intervention combined symptom management with psychodynamically-informed therapy (Toobin, 1991) and there were 24 sessions over eight months. The behavioural work focused on eating ‘normal-sized’ meals and not vomiting afterwards. Verity began by focusing on one meal and then extended this to three meals and two snacks per day. The diary was reviewed at each session and problem solving and psycho-education were used as necessary. From the sixth session her eating had become ‘normal’ and her vomiting had decreased significantly. The sessions became more exploratory although the diary was still reviewed each time. The early stages of this work focused on her relationship with her mother whom she idealised, but also experienced as critical. The middle stages focused on her perfectionist standards and fears of being rejected if she was exposed as a failure. The end stage focused on feelings of rejection by her father, dissatisfaction with her step-father and progress made in therapy. Through out this work, attempts were made to use transference and counter-transference in the therapeutic relationship and supervision was central in exploring these processes.
Clinical Dossier

Outcome
Over the course of therapy, Verity went from bingeing and vomiting up to five times per day to not bingeing at all and only vomiting once a week, which was maintained over 14 weeks. This represents a significant change in behaviour and takes her outside the DSM-IV (APA, 1994) diagnostic criteria for bulimia. Verity reported feeling greater insight into her difficulties and showed some of the indicators for ending psychodynamic therapy (Lemma, 2003).

Reformulation
The initial formulation was refined to clarify the hidden feelings about her mother and the change in her thinking about excessively high standards supported their role in the original formulation. The original formulation neglected the impact of being abandoned by her father.

Critical Evaluation
This work appeared useful to Verity due to an effective therapeutic relationship facilitated by the similarity in our stages of life, and her previous success at managing her eating. Her CPN provided useful support when I was not available and validated the changes Verity had made. It was difficult to talk about the transference relationship, but very useful and reflections were made on its power. The triangles of conflict and insight were not always completed with Verity but this shows that improvement can be made without completion. Fairburn et al (1995) suggest that Verity’s long-term prognosis is quite good as after 5.8 years 72% of those who had focal therapy/IPT were symptom free. Verity expressed a preference for an exploratory approach but CBT could also have been effective and many of the changes she reported can be understood in cognitive terms. Consent was given to write this case report.
References


Integrative Work With a 9 Year-Old-Boy With Anger Management Difficulties

Child, Adolescent and Families Case Report

Year 2
April 2006

The names used in this report and fictional and some of the details have been changed to preserve anonymity
Clinical Dossier

Referral / Presenting Problem
Ed Taylor is a nine year-old boy of mixed British Chinese-Mauritian heritage, he is British born and only speaks English. He was referred by his GP regarding difficulty controlling his temper. Ed’s parents divorced when he was 3½; he lives with his mother, two brothers and a nanny. Ed described getting angry at home which sometimes led to him hitting, kicking or pushing his brothers. Incidents began when one of his brothers annoyed him, told him what to do or touched him. After the incident Mrs Taylor discussed what happened with Ed. Mrs Taylor felt that most of her time at home was spent discussing incidents and that the house was organised around Ed’s mood.

Assessment
The assessment took place over three sessions seeing Mrs Taylor and Ed both together and alone. There were a number of similarities between the family and myself and the impact of these on therapy was reflected upon. Mr Taylor’s perspective on the situation was gained when he brought Ed to a session. Information about family history, development of the problem, attitudes to discipline and Ed’s development was gathered. Mrs Taylor scored above 95th percentile on all scales on the Parenting Stress Index (Abidin, 1995), which is clinically significant. Ed completed the Beck Depression Inventory for Youth and Beck Anxiety Inventory for Youth (Beck et al., 2001) and his scores were not in the clinical range. No risk issues were identified.

Initial Formulation
Ed’s behaviour was understood as adjustment difficulties following divorce. Cater and McGoldrick (1998) suggest these may occur if the tasks associated with adjustment to divorce are not completed successfully; this could be seen in conflict between Mr and Mrs Taylor and difficulty establishing effective social support. Consequently the difficulties were viewed as a problem within the system. An integrative model of formulation (Weerasekera, 1996) was used to combine individual and systemic factors: Ed's behaviour may have developed as a way of getting attention from his mother, as she worked very long hours and was not available often, it was also positively reinforced (Bandura, 1969) by the attention from his mother,
father and brother following 'tantrums'. Minuchin's (1974) ideas of family structure were also helpful in understanding conflict between Ed and his brother as arising from unclear boundaries between the parent and child subsystems, and possible triangulation with his parents in which his behaviour drew Mr Taylor back into the family; hypotheses were made about reasons for this occurring in the system. Wider systemic influences were seen in Mrs Taylor's beliefs about parenting and discipline.

**Intervention**

The intervention took place over eight sessions and combined individual CBT with Ed to help him control his anger, parenting work with Mrs Taylor to encourage her to make use of existing strategies and a session with Ed, his brother and Mrs Taylor to explore their relationship. I had hoped to have a joint session with Mr and Mrs Taylor to discuss consistency across settings, but this was not possible. Individual sessions with Ed focused on socialising him to the CBT model, identifying triggers, thoughts and feelings, developing coping self-statements and problem-solving to identify alternative responses; these were practiced using visualisation and role-play. I shared the formulation with Mrs Taylor, discussed the role of attention and we developed a strategy to increase non-contingent positive attention and praise for Ed, whilst having a clear incident management strategy for all three children, which Ed also agreed to. Having met with Ed's older brother I met with him, Ed and Mrs Taylor; the discussion focused on positively reframing everyone's involvement in discipline and agreeing this would be left to the adults.

**Outcomes**

Following the intervention Mrs Taylor's scores on the PSI decreased, but remain in the clinically significant range. Ed's scores on the BDI-Y and BANI-Y decreased and remain outside the clinical range. Ed and Mrs Taylor reported incidents being much less frequent and Mrs Taylor reported feeling more in control. However, Ed's younger brother had started being more aggressive, hence Mrs Taylor's high PSI scores may reflect that the situation at home had not changed overall. The change can be seen as 'first order' (Bateson, 1979) since behaviour has changed, but underlying beliefs did not appear to be different. This suggested change may be maintained until
the situation altered, at which point the family may not be equipped to adapt their behaviour to the new situation.

Reformulation

Elements of the formulation were confirmed and refined but throughout the intervention I came to wonder whether the 'problem' was more about Mrs Taylor's low mood than Ed's behaviour. Jackson (1957, cited in Dallos & Draper, 2000) suggested that family systems work to maintain homeostasis because the 'problematic' relationship pattern serves a function. This can be seen in the way his younger brother's behaviour became worse as Ed's improved, which suggests this behaviour is in someway required by the system. Possible hypotheses for this were suggested.

Critical Evaluation

Reasons for the intervention working well at a 'first order' level (Bateson, 1979) were considered, including resources within the family, being in the Action stage of readiness to (Prochaska & DiClemente, 1983) and the therapeutic alliance (e.g Baber et al., 2000). Alternative approaches were discussed in the light of the reformulation of Mrs Taylor's low mood as significant and the dilemma of interventions for parents in CAMHS was explored. Reflections were made on the challenges of integrative working and ethical issues such as sharing information between parent and child and respecting the individual's definition of their ethnicity were raised. The most significant learning points from this work were that even if all a family's difficulties cannot be addressed at once it is still possible to facilitate useful change. There is not only one way to intervene e.g. working with a child's behaviour difficulties may help the parent's low mood, and that different theoretical models also overlap more than I previously thought. Consent was obtained to write this case report.
References


Assessment of Learning Disability with a 35 Year-Old-Woman

People with Learning Disability Case Report

Year 2
September 2006

The names used in this report are fictional and some of the details have been changed to preserve anonymity
Referral / Presenting Problem
Anne South, a 35 year-old woman, was referred by a Community Learning Disability nurse within the team for formal assessment of whether she had a learning disability (LD) since the Community Mental Health Service (CMHT) wanted the assessment to inform decisions about future residential provision. Ms South had a current diagnosis of Bipolar disorder and her father reported the family found her behaviour\textsuperscript{3} very difficult to cope with to the extent he did not think she could remain living with them. Ms South is of white British origin and her first language is English. She lives with her parents and two daughters in a rural area of South England. She receives Disability Living Allowance and attends a day service for people with mental health difficulties or learning disabilities five days a week.

Informed Consent
The Care Co-ordinator initially informed me that the assessment was to determine whether Ms South was eligible for LD services and her capacity to parent independently. However, it became clear the main issue was whether Ms South was eligible for LD residential accommodation if her position at home became untenable. The consent leaflet that had been prepared was amended accordingly. Discussion took place over two sessions, team process for obtaining informed consent was followed and Ms South gave her consent. Consent to write up this case report was also obtained.

Background Information
From the age of seven Mrs South attended a school for children with special educational needs, which she reported enjoying; she is unable to read or write and has no formal qualifications but has sustained employment. Ms South is partially deaf but has no other significant medical history. She does not have epilepsy and no head injuries or periods of unconsciousness were reported. She was diagnosed with Bipolar disorder following post-natal depression and the breakdown of her relationship, which is currently manifested by hypomanic episodes.

\textsuperscript{3} Repetitive questioning, waking others at night, walked around the house naked, pinching, not participating in looking after her children and lack of insight into her difficulties.
Risk

Pervious concern about her ability to look after her children led to them all living with her parents: there were no current concerns and risks associated with her mental health difficulties were managed by the CMHT.

Hypotheses

A literature review was undertaken into the neuropsychological profiles of LD and bipolar disorder. Given her educational history and current functioning, it was expected that a profile consistent with LD would be found with additional deficits in sustained attention and verbal memory beyond those that can be accounted for by LD due to Bipolar disorder.

Assessment

In line with the literature the following tests were used:

5. *Adult Memory and Information Processing Battery (AMIPB; Coughlan & Hollows, 1985)
6. *Draw a Person Test (Naglieri, 1988)

None of the tests marked * have been standardised on people with LD so there are limitations in the validity of their use with this group. However, in the absence of appropriately standardised tests they are able to provide a useful indication of level of functioning (Leyin, 2006).

The assessment was conducted over three sessions: two testing sessions with Ms South and one with her father.
Finding / Discussion
Ms South's results for the WAIS-III were in the Learning disability range and there were no significant strengths or weaknesses in her ability to use and organise verbal or visual information. She scored in the Extremely Low range on the ABAS-II, which suggests that her general adaptive skills are in line with her intellectual functioning. Ms South's practical living skills were stronger than her communication or social abilities.

Cognitive assessment showed significant impairment for both verbal and visual recall memory, but this was concordant with her general intellectual abilities. In general her executive function appeared to be in line with her intellectual functioning. Her abilities to plan activities, use abstract concepts, maintain attention and initiate tasks were all in the Learning Disability range. However her ability to inhibit irrelevant material and switch between tasks was a relative strength.

Given Mrs South's scores on the WAIS-III and the ABAS-II, and as there was evidence for these difficulties being present during childhood, Ms South can be considered to have a Learning Disability (BPS, 2001). Her full-scale IQ score is in the range 58-66 at the 95% confidence interval, which means she can be described as having a Mild Learning Disability according to ICD-10 criteria. There do not appear to be specific cognitive impairments, beyond those associated with her learning disability, which contribute to her difficulties and it seems unlikely that BD has affected her performance, apart from possibly in the area of verbal memory.

Recommendations
The report was discussed with Ms South and she was given a simplified language version. Recommendations were made including: making allowance for Ms South's abilities being less than her presentation suggests, checking her comprehension, using pictures to reinforce verbal information, and presenting all information slowly with frequent repartition. It was recommended that she be considered for LD independent supported accommodation and likely support needs were outlined.
Critique

The limitations of assessing for LD using tests that have not been standardised for people with LD were discussed and concerns around psychologists acting as gatekeepers to services were explored. Issues around informed consent and the use of test results were explored and the reality of managing the agenda’s of different stakeholders was considered.
References


Integrative Assessment and Intervention With a 5-Year-Old Boy with Behaviour Difficulties, A Learning Disability and Autism

Advanced Competencies Case Report

Year 3
October 2007

The names used in this report and fictional and some of the details have been changed to preserve anonymity
Referral / Presenting Problem
Kenny Deboue is a five year-old boy, who was born in Britain to African Parents; Ms Deboue is tribal royalty and a Christian. Kenny speaks English, but understands Ga and English. He was diagnosed with autism and global developmental delay aged three; he has limited language. His class teacher referred him for assistance with his behaviour at home. Ms Deboue described Kenny as a very active child who constantly ran, jumped and climbed on windowsills, doors and the mantelpiece at home, threw things out of windows and only slept for five hours per night. He lives with his mother, aunt and younger brother in a high-rise council flat; his parents divorced nine months previously and his aunty was about to be deported.

Assessment
Kenny and his mother attended the first meeting. Further assessment took place on school and home visits. Information was collected about the presenting problem, Kenny’s development, education and family history. Issues of social status, housing and culture were reflected upon. Ms Deboue scored above the 99th percentile on all subscales of the Parenting Stress Index-Short Form (Abidin, 1995), which is in the clinical range. During a formal one-hour observation at home Kenny spent 78% of his time on the windowsill, mantelpiece or door.

Risk
Risk issues around falling were identified. A risk and safety plan was constructed and discussed with Ms Deboue and Kenny’s social worker.

Initial Formulation
Higgins (2004) suggests that behaviour problems need to be understood as an interaction between biological, psychological and social factors, consequently Weerasekera (1996) integrative model of formulation was used: Predisposing factors included Kenny’s diagnosis of LD and Autism leading to limited social understanding, and little sense of danger; Ms Deboue’s low mood also makes it difficult to engage with Kenny and they live in unsuitable accommodation. These factors combine so that Kenny’s climbs and throws things. The behaviour is
maintained by interaction with his mother. Furthermore, the behaviours lead to it becoming more difficult for Ms Deboue to take Kenny out thus increasing the likelihood that he will run and climb, restricting her social support and probably further lowering her mood.

Intervention
The intervention was carried out with the Specialist Registrar, who managed Kenny's sleep with medication and advocated regarding benefits and visa renewal. I undertook behaviour management and cognitive assessment to inform Kenny’s Statement of Special Educational Needs.

Behaviour Management
This involved two sessions at the clinic, two home visits and four telephone conversations. Ms Deboue’s understanding of Kenny’s difficulties and how she felt about these was explored. The management plan from school using a ‘time out from positive reinforcement’ strategy was adapted for home with Ms Deboue. The amount of non-contingent positive attention was increased to reduce the power of reinforcement from social contact and activity that climbing provided. I spent two hours at their home modelling and coaching about use of the strategy and then maintained telephone contact. Reflections were made on the importance of this process to Ms Deboue.

Psychometric Testing
Testing was carried out by my supervisor in one 50-minute session; I observed and wrote the report. On the basis of theoretical accounts of autism, and current research, it was predicted that Kenny’s performance abilities would be at significantly higher level than his verbal abilities.

Assessment
Current literature on testing children with autism and LD informed the use of the following tests:

1. The Symbolic Play Test (Lowe & Costello, 1976)
2. Merrill-Palmer Scale of Mental Tests (Stutsman, 1948)-non verbal subtests only.


The limitations of using tests outside of the age range and with out-of-date standardisations were discussed.

Findings/discussion

Kenny showed an uneven profile of abilities. His visual-motor skills performance was in the 'Borderline' to 'Low Average' range, but his symbolic representation abilities were much less than half his chronological age. Kenny's language abilities were at or below his symbolic representation level. Consequently Kenny appears to have less practical ability than he actually does. The way in which his profile fits a diagnosis of autism was explained. Recommendations included the need for an autism specific educational environment that could concentrate on language development, the importance of building on his practical skills and the benefit of clear routines.

Permission was obtained to write this case report and plans were made with Ms Deboue about what work would be handed over to a future trainee once I left the service.

Outcomes

Ms Deboue's PSI scores remained in the clinically significant range, but there was some reduction. She reported a significant change in her mood and beliefs about Kenny. The high PSI score probably reflects the reality of caring for an active child with autism and LD. During repeat observations at home Kenny did not climb at all, hence the risk of injuring himself through falling was greatly reduced.

Reformulation

Support was found for the behavioural components of the formulation and the impact of Ms Deboue's low mood. The initial formulation did not pay enough attention to Ms Deboue's beliefs about Kenny and consequently her control in the situation.
Critical Evaluation

The intervention was successful and the role of factors such as sufficient sleep, change in beliefs and the therapeutic alliance in bringing this about was explored. Reflections were made upon the way a focussed intervention can bring about wide reaching changes. These changes were understood as 'second order' (Bateson, 1979) since they involved altered beliefs and so, should have long-term effects. The importance of addressing social issues and advocacy was raised, as was the central role of joint working in this case. The main learning point from this work was the realisation that the process of behavioural work can be extremely valuable and the ways this has changed my practice were outlined.
References


RESEARCH DOSSIER
Research Log Checklist
| 1 | Formulating and testing hypotheses and research questions | ✓ |
| 2 | Carrying out a structured literature search using information technology and literature search tools | ✓ |
| 3 | Critically reviewing relevant literature and evaluating research methods | ✓ |
| 4 | Formulating specific research questions | ✓ |
| 5 | Writing brief research proposals | ✓ |
| 6 | Writing detailed research proposals/protocols | ✓ |
| 7 | Considering issues related to ethical practice in research, including issues of diversity, and structuring plans accordingly | ✓ |
| 8 | Obtaining approval from a research ethics committee | ✓ |
| 9 | Obtaining appropriate supervision for research | ✓ |
| 10 | Obtaining appropriate collaboration for research | ✓ |
| 11 | Collecting data from research participants | ✓ |
| 12 | Choosing appropriate design for research questions | ✓ |
| 13 | Writing patient information and consent forms | ✓ |
| 14 | Devising and administering questionnaires | ✓ |
| 15 | Negotiating access to study participants in applied NHS settings | ✓ |
| 16 | Setting up a data file | ✓ |
| 17 | Conducting statistical data analysis using SPSS | ✓ |
| 18 | Choosing appropriate statistical analyses | ✓ |
| 19 | Preparing quantitative data for analysis | ✓ |
| 20 | Choosing appropriate quantitative data analysis | ✓ |
| 21 | Summarising results in figures and tables | ✓ |
| 22 | Conducting semi-structured interviews | ✓ |
| 23 | Transcribing and analysing interview data using qualitative methods | ✓ |
| 24 | Choosing appropriate qualitative analyses | ✓ |
| 25 | Interpreting results from quantitative and qualitative data analysis | ✓ |
| 26 | Presenting research findings in a variety of contexts | ✓ |
| 27 | Producing a written report on a research project | ✓ |
| 28 | Defending own research decisions and analyses | ✓ |
| 29 | Submitting research reports for publication in peer-reviewed journals or edited book | ✓ |
| 30 | Applying research findings to clinical practice | ✓ |
Newspaper Constructions of Risk Following Protests about the Publication of Cartoons Depicting the Prophet Mohamed: A Discourse Analysis.

Qualitative Research Project Abstract

Year 2
May 2006
ABSTRACT
The current study focussed on the media response to the “cartoon” incident of March 2006 during which a Danish newspaper published “cartoons” depicting the Islamic prophet Muhammad. Specifically, the study aimed to explore media representations of Muslims and Islam in response to this incident, focussing on the depictions of risk and threat conveyed within British newspapers. In exploring these aims, a qualitative research methodology was employed. Specifically, newspaper extracts (including text and images) relating to the depiction of threat and risk were selected from papers of varying political affiliations, before being subjected to a detailed discourse analysis, exploring the text’s discursive organisation and possible functional orientations. Here, a critical discursive psychology approach was undertaken, integrating elements of previously distinct discursive and Foucauldian discourse analytic traditions, within a social constructionist framework. Extracts of texts and images were discussed in relation to the following two predominant themes: ‘the separation of the majority Muslim community from the ‘extremists’” and ‘the protestors as wild men bringing Armageddon on the West’. The study concluded by considering the way in which the British media generally portrayed Muslims in a negative light, reinforcing notions of risk/danger through use of simplistic text and imagery supporting these positions. In doing so the current findings were contrasted alongside wider literature from the field with regard to the study’s potential limitations.
Audit of a Talk to Potential Applicants for Clinical Psychology Training

Service Related Research Project

July 2005
Year 1
Acknowledgements

Many thanks to Dr Sue Thorpe and Dr James Murray for their advice and help with this study
ABSTRACT
Clinical psychology training is dominated by young females who have worked as assistant psychologists. This study is an evaluation of a talk given by the admissions tutor from a clinical training course which aimed to 'level the playing field' between traditional and less traditional applicants. It was predicted that applicants' views would be closer to course staff views after the talk than before and that those with greater opportunities to get information about the application process would have views closer to the course staff. Potential applicants completed a questionnaire before and after the talk (n=68) which were compared to course staff responses (n=6). There were no substantial differences between the beliefs of those with greater opportunity for information and those without and there were few significant differences with the beliefs of course staff before the talk. Following the talk there was less agreement between course staff and potential applicants, but their beliefs remained in a similar range. This is discussed in terms of the variation in beliefs amongst the staff. This study suggests there are not major errors in belief about the application process and that assistant psychologists do not have the advantage expected. Recommendations for the service include discussing whether a talk to this group meets their aims, discussing beliefs about the application process amongst themselves and looking at ways to bring in a wider audience.

INTRODUCTION
Competition for places on clinical psychology training courses is fierce. For courses starting in 2004 there were 1941 applicants for 554 places (Clearing House for Postgraduate Courses in Psychology (CHPCP), 2004). Williams (2001) reports that being short-listed and getting onto a course is perceived to be a combination of qualifications, clinical skills and experience, especially as an assistant psychologist. Experience suggests that this is a process where there are many rumours about the qualities courses look for during short-listing and that groups of psychology graduates share information hoping to increasing their chances of getting an interview. These networks may create an advantage for those within them whilst also contributing to the exclusion of 'less traditional' candidates. In an attempt to redress this a clinical training course provided a talk for potential applicants which outlined the application
process and the qualities the course is looking for. This report presents an audit of the talk.

In 2004 the course in question received 377 applications for 25 places (CHPCP, 2004) and represents a fairly typical course in terms of both size and selection procedures (Murray, in press). Applicants submit a standardised form to the CHPCP, which is then passed onto the four courses of their choice. At this course forms are screened by course staff to ensure they meet basic criteria such as GBR, degree class and some relevant experience. Forms meeting the criteria are then reviewed by a member of the course team and a regional psychologist against guidelines produced by the course. They consider the areas of academic ability, relevant experience, personal characteristics, experience and attitudes to research, and references. A ranking and comparison process allows 90 candidates to be short-listed for interview and a further 60 to form the reserve list for interview (University of Surrey, 2004). Following interviews, the candidates are again ranked and the top 25 offered places, with candidates after these being placed on a reserve-list from which places are offered if any of the original candidates decline (Murray, in press).

Selection for clinical psychology training courses is in many ways typical of other graduate jobs, a large number of applications are received for a small number of places. This necessitates relying on short-listing to identify suitable candidates for interview (Kennan, 1995). Like many other application forms the clinical psychology form is a mixture of closed questions and free response questions relating to reasons for choosing the area of work, self-assessment of strengths and weaknesses (Keenan, 1997) and, perhaps more uniquely to clinical psychology, how previous experience relates to training. Yet Keenan (1997) suggests application form screening may not be the rigorous process we would like to think it is with screeners having varying priorities which can significantly affect who is interviewed and so who ultimately gets the job. This has lead to limited research looking at what factors from the application forms predict short-listing for clinical psychology training course interviews.

Phillips, Hatton et al (2004) found that the factors best predicting short-listing were proxy indicators of academic ability (post-16 education at school, degree class,
postgraduate qualifications), graduate basis for registration, relevant experience (number and variety of assistant psychologist posts) and positive ratings from referees. They suggest these factors are indicators of the competencies required for clinical training, and reflect the priorities courses use in selection (Phillips, Hatton et al., 2001). The only unexpected factors they identified were post-16 education being at school and the experience related reference being from a clinical psychologist. They suggest these may reflect short-listers’ ideas about the most appropriate routes into training and who’s opinions they give weight to. Very few factors were identified to discriminate between those in the short-listed pool who were offered places and those who were not. This shows the importance of the application form stage of the process and means that the concern applicants show over this is justified. Whilst having identified these factors is useful and suggests that the processes at least has face validity the study was not able to look at the influence of the open-response sections which make up the majority of the form and could be assumed to make a significant difference between being short-listed or not. This study also further highlights how homogenous a group those applying for clinical training are.

The lack of diversity of gender, ethnicity and social / educational background in clinical psychology is well known (e.g. Bender & Richardson, 1990) and is a concern when we serve an increasingly diverse population. The root of these problems is unclear and does not appear to be due to discrimination during the application process (Phillips, Hatton et al., 2004). However, having been an assistant psychologist is influential (Phillips, Hatton et al., 2004) and those from less traditional entry routes do not appear to succeed in the same way as this group. In an effort to ‘level the playing field’ between those who are assistant psychologists and have access to a considerable support network and those who are not, the Admissions Tutor from the training course gave a talk outlining the course’s priorities when short-listing applications. This talk was audited to establish whether it altered the views of applicants to be more in line with those of the course and to identify any areas that should be addressed in the future.
Hypotheses
1. After the talk, applicants' views will be closer to the course priorities, as expressed by course staff.
2. The views of those with more opportunities for information (e.g. Assistant Psychologists) will be closer to those of course staff before the talk than the views others.

METHOD
Design
A pre- and post- intervention design was used. Potential applicants completed a questionnaire measuring their beliefs about the application process before and after the talk to measure change in beliefs. This questionnaire was also completed by course staff to allow comparison of the views of those attending the talk with those of the staff. Demographic information was not collected from the course staff.

Participants
68 out of 79 people attending the talk returned the questionnaires; a return rate of 86%. 6 out of 13 course staff returned questionnaires; a return rate of 46%.

Tools
A questionnaire was developed to look at beliefs about the application process. This included demographic information such as age, nationality, current employment, intention to apply this year and number of times previously applied, and 44 belief statements about the application process. These were rated from 0-10 where 0 represents strongly believing the statement is not true of the application process and 10 represents strongly believing the statement is true of the application process. The belief statements were developed from information given in the Clearing House for Postgraduate Courses in Clinical Psychology Handbook for 2005 entry (2004), documentation from the course relating to the short-listing process, asking the opinion of current trainees and people who were thinking of applying. These were sought through personal contacts at different training courses, posting a message on www.psyclick.org.uk (a message board resource for people interested in clinical psychology) and contacting those who were going to attend the talk via email. The
questionnaire is shown in Appendix I and the source of each question is shown in Appendix II. The questionnaire was revised following comments from the Admissions Tutor and a research tutor, this also served as validation of the tool by people with expert knowledge.

RESULTS

Description
The mean age of potential applicants was 25.3 years (range 20-45), only 10% were male and 89% were of White British ethnic origin. Over half of the participants were currently working as NHS assistant psychologists, with the next largest group being undergraduate students. A Clinical Psychologist supervised 66%; this group included Assistant Psychologists, Research Assistants, Nursing Assistants and others. 30% had applied for clinical training before with 3% having applied at least four times. At the beginning of the talk 63% were intending to apply for training starting in 2005, whilst 22% were not considering applying. Information on whether they intended to apply after the talk was omitted by many people so this is not reported. See Appendix III.

Statistical Methods
The data is ordinal and has a non-normal distribution, as shown by the Kolmogorov-Smirnov test. Hence Mann-Whitney U tests were used to look at between group differences whilst Wilcoxon Signed Ranks Test was used to analyse the differences in responses before and after the talk. As 44 items were used the Bonferroni Correction gives a significance value of 0.0012. This should be used for a rigorous analysis but as this data is exploratory it is useful to consider the more liberal value of 0.05 as well.

Differences according to job
Assistant psychologists considered supervision by a clinical psychologist (U=389.0, p= 0.03), showing what you have learned from experiences (U=318.5, p=0.014) and using particular phrases (U=407.0, p=0.036) to be more important than those with other jobs. They thought that being male was a greater advantage (U=309.5, p=0.001) but that ‘who you know’ is less influential than other groups (U=407.0, p=0.035).
Number of times previously applied for training

Those who had not applied before thought the application process was more fair and involved less chance than those who had applied before (Items 4 U=256.0, p=0.002, Item 20 U=303.0, p=0.016).

Relationship between course staff rating of importance of items and participant rating

There was a lack of consistency amongst the staff view of the importance of many items. For example, beliefs about whether the course used positive discrimination to increase ethnic diversity and whether the referee should be the current supervisor varied from 0-8. Beliefs about undergraduate research being sufficient and whether women had an advantage varied from 0-10. This and the small sample size, affect the comparison with potential applicant's beliefs.

Before the talk there were significant differences, at 0.05 level, between the staff and applicants on the importance of 11 items, although none of these items are significant at the 0.0012 level. Following the talk the applicants' opinions diverged further from the staff rating with there being significant difference on 17 items. Items 11 and 29 were significant at the 0.0012 level. Applicants viewed A-Level grades as more important, and thought activities outside the work place were more influential than staff did. See Appendix IV.

Applicants' views of the importance of 28 items changed significantly as a result of the talk (see Appendix V). On 20 of these items applicants moved further away from the staff view, on ten items creating a significant difference between staff and applicant opinion that was not present before the talk. On three items the talk brought the applicants' views significantly closer to the staff view (whether the right people get onto courses, the importance of assistant post and importance of linking psychological theory to everyday life). Data for the mean scores can be seen in Appendix VI. The means show that even when there is a statistically significant difference staff and applicants rated the scores in the same 3 point range, suggesting approximately equal value, on all but three items (whether time gaps in CV would be
noticed, whether being female was an advantage and whether paid work was more valuable than voluntary work) and these were within a four point range.

**Relative importance of different factors**

Staff and applicants both considered showing what you have learned from experiences to be the most important factor. Academic ability and professional and ethical behaviour were in the four most important factors for both groups. Explaining models of therapy and talking about formulation were seen as amongst the least important for both groups. There was no substantial change in ratings before and after the talk (See Appendix VII)

**Further Comments**

When asked if they would change their application strategy as a result of the talk, ten responded that it would not alter their strategy, whilst 15 commented on ways they would do things differently (see Appendix VIII). Where they had additional beliefs, generally the ones which were consistent with the course view were maintained, whilst the belief in others decreased (see Appendix IX)

**DISCUSSION**

The sample differed from the actual applicant population. This sample was younger, with mean age of 25 years whereas the mean age of actual applicants is 28 years, and contained more undergraduates, 28% instead of 5%. The sample also contained less men than apply for clinical training; 10% instead of 19%. The ethnic composition was approximately equal with 82% of the sample being White-British when 86% of actual applicants are white. 53% of the sample were assistant psychologists where as 47% of applicants hold this job (CHCPC, 2004). The age difference can probably be explained due to the talk being held at university and so being more convenient for undergraduates than those who had to travel further. The sample was approximately similar to actual applicants in many ways but males and older applicants were under-represented. This suggests the talk did not manage to attract those outside the traditional applicant groups.
The results suggest that there are not major errors in belief amongst potential applicants for clinical training. Their views do differ from those of training course staff, but are generally within a 3-point range, showing rough proximity. Change in belief did occur as a result of the talk, but moved away from the views of the course staff. Even after the talk, the views of both groups remained in the same range showing that although some of the changes may be statistically significant, they are not of practical significance. These views were supported by the qualitative comments which showed the talk had confirmed and possibly strengthened applicants’ existing views, which may account for the increased distance from staff views.

The results also showed that being in jobs which could give greater knowledge about the application process did not bring the advantages that might be expected. Assistant Psychologists, those supervised by a clinical psychologist or those who have applied for training before do not hold views that are substantially different from the rest of the group. This suggests that there is no need to ‘level the playing field’ amongst those enthusiastic enough and able to come to the talk. However, nothing is know about those who did not come.

The main limitation of this study is the small size of the staff group, meaning the conclusions lack power and views of this group may not be representative. The wide spread of views within this group will also have affected the comparisons. It is probable that the talk reflected the priorities of the admissions tutor and his views may differ from those of other staff. It is also possible that the views of potential applicants would have been closer to his views than to the rest of the staff. This wide spread of views is something that needs to be discussed further within the course team. Cross-checking within the short-listing process may stop these differences affecting the final outcome and differences may be a positive factor if they increase the diversity of those interviewed. However, some of the items on which substantial differences occurred seem to be significant issues which should be discussed within the team e.g. whether courses positively discriminate to increase ethnic diversity.
The use of multiple testing is another limitation of the study. Even though this was corrected for, it increases the chance of identifying significant differences where they do not exist. To avoid this, the questionnaire items could have been clustered into subscales which could then have been compared. This was not practical within the time frame of the project and would have led to some loss of sensitivity in the data. As the data was exploratory and the aim was to find out what people thought on subtle issues where there is no 'right' answer, having the range of questions and looking at them individually probably led to more useful information. This was also reflected in the use of two statistical significance levels. Clustering the items and reducing the number of items would be useful if the questionnaire was to be used for further investigation.

This project created some conflicts for the researcher. As a trainee she is managed and assessed by the course staff who participated in this evaluation. Given this, it was difficult to report the comparatively low response rate from the staff and the considerable divergence in opinion amongst them. This project will be marked by one of the course staff who may have attended the presentation at which the results were fed back. This removes anonymity in the marking process and increased the feelings of not wanting to report 'critical' findings. Once she became aware of these feelings, the researcher went back to the report and made the section reporting staff views more explicit.

Recommendations for the service:

- The study has highlighted divergence in staff beliefs about the selection process. Whilst this may have no effect on those selected, these issues need to be discussed. Future research could include rigorous cross-checking between raters to see whether this does affect outcome, canvassing of regional psychologist's opinions and wider research on course staff views, for example at a Trainers' conference.
- The group was composed of quite typical applicants; the talk may be of more value if it could attract 'less typical' applicants. Ways need to be found to reach these groups. Promoting clinical psychology to undergraduates as an accessible career option may increase diversity. However, Hatton et al (2004)
suggest the lack of diversity is also seen in undergraduate psychology courses. For this reason getting information to schools and colleges to attract those who may not traditionally study psychology could increase diversity in terms of social class, education, ethnicity and gender. Course staff, regional psychologists and trainees could all be involved in reaching this wider audience and the university Widening Participation programme could be utilised.

These findings were presented to the course staff team on 6th June 2005 (see appendix X)
REFERENCES
Murray, J (In press). How good are clinical psychology course selection methods (Part 1) *Clinical Psychology*.
Murray, J (In press). How good are clinical psychology course selection methods (Part 2) *Clinical Psychology*.
Thank you for filling in this questionnaire. We hope to use what we learn from it to provide more useful information in the future to people thinking of applying to clinical psychology courses.

By filling it in and handing it back you are giving your permission for the information to be used in this way. Thank you for your help.

1. What is your current job?
   □ NHS Assistant Psychologist □ Research Assistant □ Undergraduate Student (Please give year ....., ) □ Postgraduate Student □ Nursing Assistant / Support Worker □ Voluntary work □ Unemployed □ Other ........................................................ (Please give job title)

2. Are you supervised by a clinical psychologist? Yes / No (Please circle)

3. How many times have you applied for Clinical Psychology Training?
   □ 0 □ 1 □ 2 □ 3 □ 4+

4. Are you going to apply for Clinical Psychology Training this year? Yes, Definitely / Probably / Possibly / No, definitely not (Please circle)

Please rate each statement with a score of 0-10 representing how strongly you believe it to be true about the selection process.

0 ----------------------------- 10
You strongly believe this statements is NOT true of the application process
You strongly believe this statement IS true of the application process

1 It is necessary to have worked with all main client groups
2 Eligibility for Graduate Basis for Registration is an essential requirement
3 Work supervised by a clinical psychologist is more valuable than that supervised by other professionals
4 The application process is fair
5 A few spelling mistakes on your form make no difference
6 The only acceptable research experience is as a research assistant
7 You stand a better chance of getting interviews if you are male
8 Talking about negative life experience is not a good idea
9 Applications from people who are not UK nationals are rejected
10 Having children is a disadvantage
11 A-levels, as well as degree class and postgraduate study are taken into consideration
12 Time gaps of up to a year in your CV will not be noticed
13 Showing what you have learned from your experience is more important than the experience itself
14 Mentioning particular phrases like 'formulation' or 'Scientist-practitioner' are the key to getting interviews
15 Your clinical reference should be written by your current supervisor
16 People with previous mental health difficulties are never interviewed
17 Being a woman is an advantage
18 The main focus of the application form is to show your experience and what you have learned from it
19 Most successful candidates have a postgraduate qualification
20 The application process is a lottery
21 Having someone who know you well as your academic referee is better than using a supervisor or tutor from university who does not know you well
22 Linking psychological theory to everyday life is the most important thing
23 Being married is valued as a sign of maturity
24 Bending the rules for completing the application form will not matter e.g. changing the font size or attaching a supplementary sheet
25 Evidence of research publications is highly regarded
26 Having experience of different client groups is more valued than having a lot of experience with one group
27 Paid clinical work carries more weight than voluntary work
28 The right people get onto clinical training courses
29 Experiences and activities outside of the work arena are taken into consideration
30 It is a good idea to interpret the question to make it fit your experience
31 Experience outside of a health setting (e.g. business) is valued
32 Applying to courses in the same geographical area increases your chances of getting interviews
33 It's not what you know but who you know that gets you an interview
34 A postgraduate qualification is more important than clinical experience
35 Having an amusing email address will show you have a sense of humour
36 Courses positively discriminate to increase ethnic diversity amongst trainees
37 People applying as undergraduates never get interviews or places
38 Talking about negative life experiences is a benefit
39 Talking about research skills gained at undergraduate level is acceptable
40 Having a 2:2 excludes you from being interviewed
41 Talking about your hobbies is a good idea
42 It's best not to indicate if you have religious beliefs
43 You must have had more than one Assistant Psychologist post
44 The main focus of the application form is to display your knowledge of the NHS and psychological theory
Please write down anything that you have heard is necessary or helpful to get through to the interview stage, or might count against you. Please rate, as a percentage, how strongly you believe each of the statements
e.g. I heard that taking a year out after university to travel was seen as a bad thing” – belief 50%

After talk only

If you wrote down any thing you have heard that may help or hinder you application please re-write these statements adding how strongly you believe these statements following the talk

e.g. “I heard that taking a year out after university to travel was seen as a bad thing” – belief 50%
After the talk, belief 20%

Do you think you will alter your application strategy following this talk? Please briefly explain your answer.
Appendix II

Source of Items for Questionnaire
**ORIGIN OF ITEMS INCLUDED IN THE QUESTIONNAIRE**

This table shows the origin of each item. However the item may be worded to show the point of view opposite to that of the person who expressed it, and so should not be taken to represent their view.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item</th>
<th>CHPCP handbook</th>
<th>Service Documents/conversations with admissions tutor</th>
<th>Conversations with current trainees</th>
<th>Correspondence with potential applicants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>It is necessary to have worked with all main client groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Eligibility for Graduate Basis for Registration is an essential requirement</td>
<td>✔</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>Work supervised by clinical psychologists is more valuable than that supervised by other professions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The application process is fair</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>A few spelling mistakes on your form make no difference</td>
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<tr>
<td>6</td>
<td>The only acceptable research experiences is as a research assistant</td>
<td>✔</td>
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<tr>
<td>7</td>
<td>You stand a better chance of getting interviews if you are male</td>
<td></td>
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<tr>
<td>8</td>
<td>Talking about negative life experience is not a good idea</td>
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<tr>
<td>9</td>
<td>Applications from people who are not UK nationals are rejected</td>
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<tr>
<td>10</td>
<td>Having children is a disadvantage</td>
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<td>11</td>
<td>A-levels, as well as degree class and postgraduate study are taken into consideration</td>
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<td>Item Number</td>
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<tr>
<td>12</td>
<td>Time gaps of up to a year in your CV will not be noticed</td>
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<tr>
<td>13</td>
<td>Showing what you have learned from your experience is more important than the experience itself</td>
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<tr>
<td>14</td>
<td>Mentioning particular phrases, like ‘formulation’ or ‘Scientist-practitioner’ are the key to getting interviews</td>
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<td>15</td>
<td>Your clinical reference should be written by your current supervisor</td>
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<td>16</td>
<td>People with previous mental health difficulties are never interviewed</td>
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<td>17</td>
<td>Being a woman is an advantage</td>
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<td>18</td>
<td>The main focus of the application form is to show your experience and what you have learned from it</td>
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<tr>
<td>19</td>
<td>Most successful candidates have a postgraduate qualification</td>
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<tr>
<td>20</td>
<td>The application process is a lottery</td>
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<tr>
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<td>Having someone who knows you well as your academic referee is better than using a supervisor or tutor from university who does not know you well</td>
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<tr>
<td>22</td>
<td>Linking psychological theory to everyday life is the most important thing</td>
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<tr>
<td>23</td>
<td>Being married is valued as a sign of maturity</td>
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<tr>
<td>24</td>
<td>Bending the rules for completing the application form will not matter e.g. changing the font size or attaching a supplementary sheet</td>
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<td>26</td>
<td>Having experience of different client groups is more valued than having a lot of experience with one group</td>
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<tr>
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<td>Paid clinical work carries more weight than voluntary work</td>
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<tr>
<td>30</td>
<td>It is a good idea to interpret the question to make it fit your experience</td>
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<tr>
<td>31</td>
<td>Experience outside of a health setting (e.g., business) is valued more than experience</td>
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<tr>
<td>32</td>
<td>Applying to courses in the same geographical area increases your chances of getting interviews</td>
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<td>It's not what you know but who you know that gets you an interview</td>
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<tr>
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<td>A postgraduate qualification is more important than clinical experience</td>
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<tr>
<td>35</td>
<td>Courses positively discriminate to increase ethnic diversity amongst trainees</td>
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<tr>
<td>36</td>
<td>Having an amusing email address will show you have a sense of humour</td>
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<tr>
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<td>People applying as undergraduates never get interviews or places</td>
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<td></td>
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<tr>
<td>38</td>
<td>Talking about negative life experiences is a benefit</td>
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<td></td>
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<td>Item Number</td>
<td>Item</td>
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<td>Conversations with current trainees</td>
<td>Correspondence with potential applicants</td>
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<tr>
<td>39</td>
<td>Talking about research skills gained at undergraduate level is acceptable</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
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<tr>
<td>40</td>
<td>Having a 2:2 excludes you from being interviewed</td>
<td>✓</td>
<td></td>
<td>✓</td>
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<tr>
<td>41</td>
<td>Talking about your hobbies is a good idea</td>
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<td></td>
<td>✓</td>
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<td>42</td>
<td>It’s best not to indicate if you have religious beliefs</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>43</td>
<td>You must have had more than one Assistant Psychologist post</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>44</td>
<td>The main focus of the application form is to display your knowledge of the NHS and psychological theory</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
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Appendix III

Table Showing Descriptive Statistics
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<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
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<tr>
<td><strong>Gender</strong></td>
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</tr>
<tr>
<td>Female</td>
<td>59</td>
<td>86.8</td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
<td>10.3</td>
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<tr>
<td><strong>Ethnicity</strong></td>
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<tr>
<td>White British</td>
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<td>82.3</td>
</tr>
<tr>
<td>Asian</td>
<td>2</td>
<td>2.9</td>
</tr>
<tr>
<td>White African</td>
<td>2</td>
<td>2.9</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>Job</strong></td>
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<td></td>
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<tr>
<td>NHS Assistant</td>
<td>36</td>
<td>52.9</td>
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<tr>
<td>Undergraduate student</td>
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<td>27.9</td>
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<td>Research Assistant</td>
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<td>7.3</td>
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<tr>
<td>Voluntary work</td>
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<td>2.9</td>
</tr>
<tr>
<td>Nursing Assistant/ Support Worker</td>
<td>2</td>
<td>2.9</td>
</tr>
<tr>
<td>Postgraduate Student</td>
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<td>1.5</td>
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<tr>
<td>Other</td>
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<td>4.4</td>
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<tr>
<td><strong>Supervised by Clinical Psychologist</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>45</td>
<td>66.2</td>
</tr>
<tr>
<td>No</td>
<td>23</td>
<td>33.8</td>
</tr>
<tr>
<td><strong>Intending to Apply for 2005 Before Talk</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>43</td>
<td>63.2</td>
</tr>
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<td>No</td>
<td>15</td>
<td>22.1</td>
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<tr>
<td>Probably / Possibly</td>
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<td>14.7</td>
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<td><strong>Times Applied Before</strong></td>
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<td>3</td>
<td>2</td>
<td>2.9</td>
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<tr>
<td>4 or more</td>
<td>2</td>
<td>2.9</td>
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</table>
Appendix IV

Items showing significant change in belief strength
**Items showing significant change on a Mann-Whitney U test at 0.05 level**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item summary</th>
<th>Z</th>
<th>P</th>
<th>More or less important after talk</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Importance of GBR</td>
<td>-2.348</td>
<td>0.019</td>
<td>More</td>
</tr>
<tr>
<td>4</td>
<td>Fairness of process</td>
<td>-4.745</td>
<td>0.0002*</td>
<td>More</td>
</tr>
<tr>
<td>5</td>
<td>Spelling mistakes</td>
<td>-2.039</td>
<td>0.041</td>
<td>More</td>
</tr>
<tr>
<td>7</td>
<td>Male increases chance of interview</td>
<td>-4.406</td>
<td>0.0001*</td>
<td>Less</td>
</tr>
<tr>
<td>8</td>
<td>Do not mention negative experiences</td>
<td>-4.098</td>
<td>0.0004*</td>
<td>Less</td>
</tr>
<tr>
<td>10</td>
<td>Children are disadvantage</td>
<td>-3.350</td>
<td>0.001*</td>
<td>Less</td>
</tr>
<tr>
<td>11</td>
<td>A-levels are considered</td>
<td>-4.418</td>
<td>0.0009*</td>
<td>More</td>
</tr>
<tr>
<td>12</td>
<td>CV gaps not noticed</td>
<td>-3.209</td>
<td>0.001*</td>
<td>Less</td>
</tr>
<tr>
<td>13</td>
<td>Show what have learned</td>
<td>-4.448</td>
<td>0.0008*</td>
<td>More</td>
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<td>14</td>
<td>Specific phrases</td>
<td>-2.621</td>
<td>0.009</td>
<td>Less</td>
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<td>16</td>
<td>Previous mental health problems</td>
<td>-3.471</td>
<td>0.001*</td>
<td>Less</td>
</tr>
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<td>17</td>
<td>Female is advantage</td>
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* Significant at the 0.0012 level
Appendix V

Mann-Whitney U showing change of belief strength of applicants before and after the talk
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<tr>
<th>Item</th>
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<th>Mann-Whitney U After</th>
<th>P after</th>
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<td>1. It is necessary to have worked with all main client groups</td>
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<td>2. Eligibility for Graduate Basis for Registration is an essential requirement</td>
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<td>3. Work supervised by a clinical psychologist is more valuable than that supervised by other professionals</td>
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<td>0.059</td>
<td>62.50</td>
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<td>4. The application process is fair</td>
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<td>0.436</td>
<td>98.00</td>
<td>0.004*</td>
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<td>5. A few spelling mistakes on your form make no difference</td>
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<td>0.014*</td>
<td>124.50</td>
<td>0.016*</td>
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<td>6. The only acceptable research experience is as a research assistant</td>
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<td>7. You stand a better chance of getting interviews if you are male</td>
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<td>8. Talking about negative life experience is not a good idea</td>
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<td>0.424</td>
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<td>9. Applications from people who are not UK nationals are rejected</td>
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<td>0.661</td>
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<td>0.745</td>
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<td>10. Having children is a disadvantage</td>
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<td>0.0003</td>
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<td>12. Time gaps of up to a year in your CV will not be noticed</td>
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<td>0.060</td>
<td>77.50</td>
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<td>13. Showing what you have learned from your experience is more important than the experience itself</td>
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<td>0.329</td>
<td>67.00</td>
<td>0.002*</td>
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<td>14. Mentioning particular phrases like 'formulation' or 'Scientist-practitioner are the key to getting interviews</td>
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<td>0.068</td>
<td>156.00</td>
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<td>15. Your clinical reference should be written by your current supervisor</td>
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<td>16. People with previous mental health difficulties are never interviewed</td>
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<td>0.011*</td>
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<td>18. The main focus of the application form is to show your experience and what you have learned from it</td>
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<td>70.50</td>
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<td>19. Most successful candidates have a postgraduate qualification</td>
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<td>21. Having someone who know you well as your academic referee is better than using a supervisor or tutor from university who does not know you well</td>
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<td>0.649</td>
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<td>24. Bending the rules for completing the application form will not matter e.g. changing the font size or attaching a supplementary sheet</td>
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<td>111.00</td>
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<td>P before</td>
<td>Mann-Whitney U After</td>
<td>P after</td>
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<td>----------------------------------------------------------------------</td>
<td>-----------------------</td>
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<td>---------------------</td>
<td>---------</td>
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<td>Evidence of research publications is highly regarded</td>
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<td>Having experience of different client groups is more valued than having a lot of experience with one group</td>
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<td>The right people get onto clinical training courses</td>
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<td>People applying as undergraduates never get interviews or places</td>
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<td>Talking about research skills gained at undergraduate level is acceptable</td>
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* significant at 0.05 level
Appendix VI

Mean belief strength of each item for staff and potential applicants
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<tr>
<td>41</td>
<td>5.76</td>
<td>2.19</td>
<td>7.19</td>
<td>1.93</td>
<td>5.33</td>
<td>1.03</td>
</tr>
<tr>
<td>42</td>
<td>2.76</td>
<td>2.62</td>
<td>2.56</td>
<td>2.40</td>
<td>1.83</td>
<td>2.23</td>
</tr>
<tr>
<td>43</td>
<td>3.16</td>
<td>2.93</td>
<td>2.44</td>
<td>2.84</td>
<td>0.33</td>
<td>0.82</td>
</tr>
<tr>
<td>44</td>
<td>5.46</td>
<td>2.86</td>
<td>5.59</td>
<td>2.81</td>
<td>3.17</td>
<td>1.17</td>
</tr>
</tbody>
</table>
Appendix VII

Ranking of different factors by staff and applicants
1 is the most important
### Factor Importance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Staff Importance</th>
<th>Applicant Importance before</th>
<th>Applicant Importance after</th>
</tr>
</thead>
<tbody>
<tr>
<td>Showing what you have learned from your experiences</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Professional and ethical behaviour</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Maturity</td>
<td>3</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Academic ability</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Linking psychological theory to everyday life</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Realism</td>
<td>6</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Following the rules of the application form</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Awareness of scientist-practitioner model</td>
<td>8</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Having worked with different client groups</td>
<td>9</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Explaining different models of therapy</td>
<td>10</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Talking about formulation</td>
<td>11</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Many years as an assistant psychologist</td>
<td>12</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>
Appendix VIII

Comments by potential applicants about the talk and ways in which they planned to change their application strategy as a result
<table>
<thead>
<tr>
<th>Participant Number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not altered a huge amount. Generally summarised what had heard already through researching the process. Some important points were raised however which will be a great help.</td>
</tr>
<tr>
<td>3</td>
<td>Yes – go through application form more rigorously making sure all my experience is linked to what I have learnt that would help me as a CP</td>
</tr>
<tr>
<td>4</td>
<td>Ensure I check the form thoroughly</td>
</tr>
<tr>
<td>5</td>
<td>Link experiences to qualities the courses are looking for</td>
</tr>
<tr>
<td>8</td>
<td>Will try to put more personal and family experience into my form</td>
</tr>
<tr>
<td>10</td>
<td>More likely to apply in future as made me more knowledgeable and has highlighted the myths about applying for CP training courses</td>
</tr>
<tr>
<td>14</td>
<td>More careful in choosing relevant experience beforehand</td>
</tr>
<tr>
<td>16</td>
<td>It's not only my experiences but what I've learned from them, will try to write answers with that in mind</td>
</tr>
<tr>
<td>17</td>
<td>No, too basic, talk good for undergrad students not so much those who have been in this process for a few years</td>
</tr>
<tr>
<td>19</td>
<td>Confirmed issues that I was already aware of. Feel more reassured about application process. Will definitely place more emphasis on what I have learned now rather than just what I have done</td>
</tr>
<tr>
<td>20</td>
<td>Not really, it's very consistent with the advice I've had from current trainees</td>
</tr>
<tr>
<td>22</td>
<td>I will aim to gain more experience in research work before applying</td>
</tr>
<tr>
<td>23</td>
<td>Mainly confirmed my application strategy. I will look at my form in detail to make sure that I have clearly stated what I have learned from my experiences as this was shown to be most important in the talk</td>
</tr>
<tr>
<td>25</td>
<td>Make sure I write about what I learnt</td>
</tr>
<tr>
<td>27</td>
<td>I will be more personal with the information I divulge</td>
</tr>
<tr>
<td>29</td>
<td>Not intending to apply this year, but I have been collecting useful books/article/advice ready for when I want to apply and this talk will definitely help when I'm at that stage</td>
</tr>
<tr>
<td>30</td>
<td>Realise the importance of having a combination of academic, research &amp; work experience and to say what I've learned from these</td>
</tr>
<tr>
<td>31</td>
<td>Not alter my strategy as the talk has confirmed many of the ideas I had before, but I may particularly emphasise certain aspects</td>
</tr>
<tr>
<td>32</td>
<td>Reflect my self to try to sound different from other applicants Not worrying so much if I don’t have a publication Understanding better how to talk about my previous business experience Not to avoid mentioning ‘weaker’ areas</td>
</tr>
<tr>
<td>34</td>
<td>Yes, will use what I have learned from my experience more than my actual experience. I may not give up hope as soon if I don’t get a place straight away. It’s made me more determined</td>
</tr>
<tr>
<td>36</td>
<td>No, still aim to make form individual and explain what I’ve learned from my experiences</td>
</tr>
<tr>
<td>39</td>
<td>Yes, will think more about what I learned from experience rather than what I did. To make it stand out rather than basic everyday answers –</td>
</tr>
<tr>
<td>More about me - what makes me good for career</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>40  Yes, very helpful on tips for what the courses are looking for &amp; to mention 'so what' to every piece of experience</td>
<td></td>
</tr>
<tr>
<td>41  Helped me focus on areas needing clarification. The talk also helped me realise how important what was gained in terms of 'what have I learned' vs 'what have I done'</td>
<td></td>
</tr>
<tr>
<td>43  Yes, definitely try to be more reflective about my experiences, and I will also try to explain how my business experience has helped me to gain skills &amp; knowledge relevant to clinical training</td>
<td></td>
</tr>
<tr>
<td>45  Not really, I feel more confident about my application</td>
<td></td>
</tr>
<tr>
<td>47  Explained about the application process, what experience it is good to have and what I could do to better myself and my application</td>
<td></td>
</tr>
<tr>
<td>48  Include some recent vocational experience that I previously thought wasn't relevant. Personal experience i.e. times where I've used stress management / dealt with negative life events</td>
<td></td>
</tr>
<tr>
<td>55  Not really. Think I've learnt over the last 2 years no to sound like a text book &amp; let the application form give details about you.</td>
<td></td>
</tr>
<tr>
<td>56  Yes, will make more personal &amp; concentrate on highlighting how various experiences have influenced personal development &amp; learning, and how this makes me a good candidate</td>
<td></td>
</tr>
<tr>
<td>58  No, maybe add a few things</td>
<td></td>
</tr>
<tr>
<td>60  Will talk more about my reasons for gaining a 2:2. Will use personal experience of schizophrenia more in the [illegible] Section for example. Will list only research based publications</td>
<td></td>
</tr>
<tr>
<td>63  I'll think more about what are the skills a CP will need and draw from my own experiences to show I have developed these</td>
<td></td>
</tr>
<tr>
<td>66  Possibly increased my thoughts of applying as an undergraduate, if nothing else to get a feel for the process</td>
<td></td>
</tr>
</tbody>
</table>
Appendix IX

Additional beliefs about the application process
<table>
<thead>
<tr>
<th>Participant Number</th>
<th>Statement</th>
<th>Belief Before</th>
<th>Belief After</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Being able to reflect on experiences</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>If you know the people on the interview panel</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Interviewers are looking for knowledge of a particular theoretical model</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>It’s who you know that will help you get on the course</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Undergrads will not get on</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>People from different countries will not get on</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Be yourself – try to explain things in layman’s terms</td>
<td>80-90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alternative handbook info on orientation / qualities will help pitch your form</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Background reading in research methods / stats to refresh memory on research questions</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mock interview with supervisor / CP that know the selection process</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>It’s not how much experience you get, it’s the quality of it and what you have learned from it</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>If you have a 2:2 a masters will help you get in</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Know exactly what you are putting on the form so if you get an interview you know the answers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Get a good clinical reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Male candidates who are slightly older have an advantage</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Course look to recruit people who have had work published rather than skills like CBT training considering CBT nurses are available</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>5</td>
<td>‘reflective practitioner’ as the new phrase in CP applications and should be embraced</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Not experience but how you can demonstrate that you have learned from this experience that is important</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>7</td>
<td>Some places don’t like applicants from a forensic background</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>8</td>
<td>Forensic MSc deters interview panels from choosing you</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Range of experience helps</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Saying something like you ‘just want to help everyone’ or ‘cure the world’ will get you nowhere</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>10</td>
<td>Hardly ever take undergraduates straight onto clinical training courses</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>14</td>
<td>Not being supervised by a CP counts against you</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Participant Number</td>
<td>Statement</td>
<td>Belief Before</td>
<td>Belief After</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>---------------</td>
<td>--------------</td>
</tr>
<tr>
<td>14</td>
<td>Usually need years of experience before you can gain a place</td>
<td>90</td>
<td>60</td>
</tr>
<tr>
<td>15</td>
<td>Diversity of experience</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>16</td>
<td>Need good A-levels to get on regardless of undergrad / postgrad qualifications</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>17</td>
<td>2:2 it's really difficult to get an interview without an MSc &amp; experience as an assistant</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>18</td>
<td>Some universities favour people who have an undergrad degree from traditional/ rep universities (top 5)</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>19</td>
<td>Relevant clinical experience with patients/ service users</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Supervision of a CP</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Experience of role of psychologists within NHS</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Good academic record</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Applying to different courses with different ethos/orientation hinder chances of getting onto a course i.e “person does not know what they want”</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>Being yourself and not what you think the interviewers want you to be is the best approach</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>21</td>
<td>People who have changed their career to pursue a career in CP are highly regarded / more likely to be interviewed</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>22</td>
<td>Applying as an undergraduate you have to be of academic excellence to even be considered</td>
<td>99.9</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Applying more than once is beneficial to show how dedicated you are</td>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>A paid assistant post in the NHS for at least one year before starting the course</td>
<td>90</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Courses value experience doing research highly. However I have heard contradictory information about this</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>25</td>
<td>Useuful to have two or more years experience</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Some courses will not consider your application if you have been rejected more than twice</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>26</td>
<td>You need to know current &amp; past NHS policy inside out</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>You should be professional and businesslike</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>You are too old</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td>Participant Number</td>
<td>Statement</td>
<td>Belief Before</td>
<td>Belief After</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>---------------</td>
<td>--------------</td>
</tr>
<tr>
<td>29</td>
<td>Applying as an undergrad is pointless</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Impossible to know what the course selectors are looking for because so many ‘perfect’ applicants are rejected</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>30</td>
<td>Only females do clinical psychology</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>31</td>
<td>Applying to a course in the geographical area within which you’ve worked is beneficial</td>
<td>70</td>
<td>50</td>
</tr>
<tr>
<td>32</td>
<td>Not being an NHS clone will help getting an interview</td>
<td>70</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Showing what you’ve learnt from experience, not how much experience</td>
<td>99</td>
<td>99</td>
</tr>
<tr>
<td>34</td>
<td>You must have a 2:1</td>
<td>80</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Must have at least 2 years work experience</td>
<td>80</td>
<td>60</td>
</tr>
<tr>
<td>36</td>
<td>Making your application form individual</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Previous applications show your commitment &amp; are taken into account</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>37</td>
<td>Membership to local groups (NHS Assistant Psychologists)</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unusual hobbies</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Need a few years experience as NHS assistant</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Degree grade must be 2:1 or 1st</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A levels are taken into consideration</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Good to get experience in various client groups &amp; settings</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>It’s what you learned from experience not how many years done</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Previous depressive problems count against you</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Necessary to have at least 1 years experience</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Need to pick 4 places (even if know where you want to go) rather than 2 to show dedication</td>
<td>99</td>
<td>0</td>
</tr>
<tr>
<td>41</td>
<td>Academic results, at least a 2:1</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Practical experience – varied</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Research strength / skills</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Maturity</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>42</td>
<td>Have to apply more than once</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Places are hard to come by</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>At least a 2:1 is necessary to apply</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>43</td>
<td>Working in other fields before applying is seen as a good thing</td>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Research experience at postgrad level is seen as a good thing</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Important to have at least one years relevant experience at time of applying</td>
<td>90</td>
<td>80</td>
</tr>
<tr>
<td>44</td>
<td>Need to get a 1st</td>
<td></td>
<td>75</td>
</tr>
<tr>
<td>Participant Number</td>
<td>Statement</td>
<td>Belief Before</td>
<td>Belief After</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>---------------</td>
<td>--------------</td>
</tr>
<tr>
<td>44</td>
<td>Won’t be considered if you get a 2:2</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>It’s incredibly difficult to get on</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Need experience in many different fields</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Experience of as many client groups as possible</td>
<td>65</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Need a high 2:1 or 1st to stand a chance</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Need to be able to show what you’ve learnt from your experience, not just list it</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Need a postgrad qualification as well as clinical experience</td>
<td>70</td>
<td>10</td>
</tr>
<tr>
<td>46</td>
<td>Need at least 2 years clinical experience</td>
<td>90</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>Need to be over 25 to stand an advantage</td>
<td>90</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>Cannot be pregnant or planning to be</td>
<td>60</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>Need a good 2:1</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Mostly those who get a 1st are chosen</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Be able to show evidence of theory to practice</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Very competitive, very lucky to get in, can take years of applying</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>48</td>
<td>You need 1st or 2:1</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>Need good experience, at least year</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>49</td>
<td>Important to know about reflective thinking / practice</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>52</td>
<td>Best to have experience in the 5 main areas of CP</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Being married is seen as being in a situation and give you more commitment to course</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Without a masters in addition to 2:2 you will not get interviewed</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>A car is essential and important question asked at interview</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>55</td>
<td>Be realistic on your form</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Evidence of academic ability</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Clarity of communication (correct punctuation &amp; grammar)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>GBR</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Good selection of referees</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>56</td>
<td>First applicants rarely succeed</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 years experience is rarely enough</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 years part-time experience is worth little</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic ability is overvalued</td>
<td>80</td>
<td>40</td>
</tr>
<tr>
<td>58</td>
<td>It’s important to reflect on the experiences you have learnt and be able to talk about your work experience in this way</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>It is good to try and talk about some of the models you have used &amp; say how you could have used others</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>Participant Number</strong></td>
<td><strong>Statement</strong></td>
<td><strong>Belief Before</strong></td>
<td><strong>Belief After</strong></td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------</td>
<td>-------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>58 Say where you need to gain knowledge</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>58 Write in a clear concise manner</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>59 Gaining experience in a wide variety of areas of CP is important</td>
<td>90</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>59 Understanding a CP’s role is a good thing</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>59 Assistant psychologist work is the most beneficial</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>60 Talking about your own learning from experiences is helpful</td>
<td>70</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>60 Being able to demonstrate a diverse pathway into the course is helpful</td>
<td>70</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>60 Having publications is an advantage</td>
<td>75</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>60 Having experience in early intervention is helpful</td>
<td>60</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>61 Unless have couple of assistant post you don’t stand a chance</td>
<td>80</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>61 Maturity is valued</td>
<td>95</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>61 People over 40 find it difficult to get in</td>
<td>60</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>62 Not qualifying in the UK - discrimination</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62 Subjective beliefs / views of the individuals on the interview panel e.g. personality</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63 Have a good supervisor</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>64 Need assistant post in both clinical and research settings</td>
<td>70</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>64 Having experience in geographical areas near to course helps</td>
<td>50</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>65 Anyone who got a 2:1 should be able to cope with it</td>
<td>75</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>66 Tendency for under selection of applicants who mention religious affiliation</td>
<td>65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66 Experience as an assistant psychologist is enormously helpful</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66 Incredibly important to build up networks &amp; contacts whilst looking for jobs</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66 Being a car owner is considered important</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66 Many posts are advertised internally &amp; hence your first post is often the hardest to find</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>68 Direct experience of working with CP</td>
<td>99</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix X

Letter from Team Administrator acknowledging feedback of outcomes to the staff team
7 June 2005

Dear [Name],

Re: Service Related Research Project Feedback

Thank you for feeding back your Service Related Research Project to the Programme Team on 6 June 2005. The project sounded very interesting and has provided the Programme Team with some points to consider for selection next year.

With best wishes.

Yours sincerely
Appendix XI

Ethical Scrutiny Form
University of Surrey

PSYCHD CLINICAL PSYCHOLOGY

Service Related Research Project

Ethical Scrutiny Form

The nature of the proposed project is such that I am satisfied that it will not require scrutiny by the trust's ethical committee.

Name of Supervisor: JAMES MURRAY

Signature of Supervisor: ........................................

Name of Trainee: SUE WATTON

Title of SRRP: Audit of a talk to potential applicants for Clinical Psychology Training

Date: 9/1/05

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Evaluation of a Computer-Based CBT package for Exam Anxiety

Major Research Project

Year 3
July 2007
Acknowledgements

With many thank to Dr Sue Thorpe and Dr Gili Orbach for all their support, advice and encouragement with this project, and to Dr Thomas Benton for his valuable statistics advice. Thank you to all the teachers and participants who put in time and effort to this and to my friends and family for your invaluable assistance along the way. I could not have done with without you all.
ABSTRACT

Test anxiety is a widespread problem that can lead to poor performance in examinations and so have far reaching consequences. Orbach et al., (2007) showed an internet-based computerised CBT package to be effective at reducing test anxiety in a university student sample compared to a placebo programme. The current study extended the work of Orbach et al., (2007) by adapting the computerised CBT package to make it suitable for G.C.S.E. and A-level pupils and evaluating it against a no-intervention control group. Participants completed the Test Anxiety Inventory (TAI) and a measure of psychological well-being (GP-CORE) before and after the intervention. 73 participants were randomly allocated to the structured or unstructured administration intervention groups or the control group; during the study 5 withdrew from the intervention groups and 4 from the control group. Post-intervention there was no difference between the intervention groups so they were analysed together. The results showed significant reductions in test anxiety and improvement in general psychological well-being amongst the intervention group, compared to the control group. At two-month follow-up those who had used the programme showed significantly lower anxiety about recent exams compared to exams taken before the study, and compared to those who had not used the programme. There was a low rate of programme use amongst the intervention group; consequently the results may underestimate the effectiveness of the programme. Ways to improve programme adherence are discussed. Overall, this study supports the use of computer-based CBT as an effective intervention for exam anxiety amongst school children.
Chapter 1
INTRODUCTION AND LITERATURE REVIEW

1.1 Overview
Exams are a central part of the school experience for all young people. Anxiety about them is widespread and justified since, as Sarason (1959 p.26) observed “We live in a test-conscious, test-giving culture in which the lives of people are in part determined by their test performance”. We also live in an age where the demand for mental health services outstrips supply (Layard, 2005) and so only those with the most debilitating difficulties are able to access professional help. Cognitive behavioural interventions have been shown to be effective at reducing exam anxiety (Vagg & Spielberger, 1995) and Cognitive Behaviour Therapy (CBT) is well suited to delivery via computer. The development of CBT computer-based interventions for exam anxiety provide a means to reach those who would not be eligible for clinical services, in line with a Stepped Care approach (e.g. NICE, 2004). The current study evaluated a computer-based CBT intervention for exam anxiety. As such the prevalence and consequences of test anxiety will be outlined before considering how it can be understood theoretically and how this theory then guides intervention. After this the nature of and evidence for computer-based interventions will be considered, before the study itself is presented.

1.2 Test Anxiety

1.2.1 Background

1.2.1.1 A definition
Test anxiety refers to individual differences in the tendency to experience anxiety in test situations (Spielberger et al., 1979). It has been defined as a situation-specific personality trait (Spielberger, 1972), which increases the likelihood that a person will
experience emotional reactions of tension and apprehension, self-centred worry cognitions that interrupt attention, and activation of the autonomic nervous system.

1.2.1.2 Prevalence

Studies into the prevalence of test anxiety show great variation. Hill (1984) estimates that 15-30% of students experience test anxiety, whilst in school age children this varies from 10-40% (Kondas, 1967; Turner et al., 1993). The variation may be accounted for by methodological differences: Studies that focus solely on school stressors (e.g. Kyriacou & Butcher, 1993) identify higher levels of test anxiety than those that cover all areas of life (e.g. Yamamoto et al., 1998). Some studies only consider anxiety that has reached a clinical level, whilst others take a broader perspective. McDonald (2001) considers this may lead to an overestimation of the problem, alternatively since the clinical level is an arbitrary cut-off point the later type of study may give a more realistic estimate of those who require assistance. Higher levels may be seen in children than in students as those who find testing very aversive may choose not to continue to further education. Despite these difficulties it is clear that test anxiety is a considerable problem for some, as McDonald (2001 p. 98) remarked: "fear of exams and test situations is widespread and appears to be becoming more prevalent, possibly due to the increasing frequency of testing and the importance placed on testing within the education system."

1.2.1.3 Influences on test anxiety

The majority of test anxiety research has focused on understanding the influence of situational factors on individuals; as a consequence there is only limited understanding of the etiology and personality characteristics of those affected (Anton & Lillibridge, 1995). However, the available evidence points to the development of test anxiety as a “unique configuration of constitutional, familial, social, educational, and experiential factors.” (Zeidner, 1998 p.168) which lead to an anxiety response that is learned over time. The uniqueness of each case is highlighted by Anton & Lillibridge’s (1995) case series in which the individuals had very different histories,
Research Dossier

cognitive and emotional responses. Salient factors that have been identified in the literature will now be outlined.

Zeidner (1998) identifies different categories of test anxious students including examinees with deficient study and tests-taking skills; examinees for whom anxiety interferes with encoding and retrieval of material; those who are resigned to failure due to low academic ability; those whose anxiety is related to fear of failure; and perfectionists who have high standards for success. Test anxiety is evident in children at infant school, prevalence then increases with age up to university level (Hill & Wigfield, 1984). This is possibly due to the increasing frequency of testing and ability to compare performance to that of others (McDonald, 2001). The effect is more significant in girls and is in line with overall higher levels of anxiety in girls (Hembree, 1988). This may reflect a greater willingness to report difficulties or higher levels of emotionality and consequently overall higher scores, or a tendency for girls to view themselves as less capable which leads to tests being perceived as more threatening, which results in higher anxiety (Zeidner, 1998).

Much research has been done into the relationship between test anxiety and intelligence since this relationship has intuitive appeal when tests are considered a measure of ability, which may be influenced by intelligence. Individuals of low ability are more likely to have experienced failure in testing contexts and could be expected to have less academic and problem solving resources to draw upon in exams (Orbach et al., 2001), both of these factors could lead to anxiety about failure in evaluative situations. Alternatively it could be argued that those of high ability are under more pressure to succeed, which again leads to anxiety about fear of failure. However meta-analysis of the research supports a small negative correlation with intelligence and, in general, test anxiety is more common in those of low ability than of average ability, and in those of average ability than those of high ability (Hembree, 1988).

Test anxiety can be subject specific (Hong & Karstensson, 2002) and a relationship to grades obtained is seen with exam but not course work assessments (McDonald, 2001). This points to confounding factors in the research: Both IQ and achievement are measured by situations that will evoke test anxiety. The anxiety may lead to lower
scores on these test so creating the relationship, rather than truly reflecting lower achievement /IQ (Hembree, 1988).

1.2.1.4 Test anxiety and performance

The most widely supported correlate of high test anxiety is lower performance scores (e.g. I. G. Sarason & Ganzer, 1963). In a meta-analysis of 562 studies Hembree (1988) reported that highly test-anxious children and students performed significantly more poorly than those with low test anxiety on a range of performance measures including achievement tests, problem solving, course grades and memory tasks. The strength of the correlations reported varies, but Rosenthal and Rubin (1982) estimate that even a small correlation of −0.2 can account for a 20% difference in the number of people passing or failing the test. As such this could be a very influential factor. However it is important to note that not all studies have reported a relationship (e.g. Sarnoff et al., 1959) and the research available is likely to be affected by the positive publication bias.

Whilst this relationship exists it is important to recognise that it is a complex one that appears to be moderated and mediated by both individual and situational variables (McDonald, 2001): Anxiety has a facilitating, as well as debilitating effect (Alpert & Haber, 1960); the nature of the task instructions differentially affect high and low test anxiety students, as instructions that aim to increase anxiety reduce the performance of high test-anxious students more than low test anxious ones (I. G. Sarason & Palola, 1960); and performance is differentially affected by perception of test difficulty: perceiving a test as difficult impairs highly test-anxious individuals, whereas it facilitates performance in those with low test anxiety (Hembree, 1988). As such individuals will respond differently to situations depending on factors such as the amount of stress they need to make them concentrate on work, how the exam instructions are worded and how difficult they think the task will be. Ball (1995) also reports an inverse relationship between performance expectancy and worry, whereby greater expectation of doing well is linked to less worry and an interaction between ability and anxiety which leads to anxiety being facilitative for those who are
intelligent and have mastered the essential components of the topic, but debilitating to those who are less able.

Within this complex relationship, much debate continues as to the direction of causality (McDonald, 2001). From meta-analysis of treatment for test anxiety studies Hembree (1988) concludes that test anxiety causes poor performance since treating test anxiety improves performance; this is supported by statistical techniques such as causal pathway analysis (Cassady & Johnson, 2002). However, the way in which levels of test anxiety, and the strength of the link with performance, increases with age (e.g. Payne et al., 1983) suggest that it is poor performance that leads to anxiety. Furthermore, Leibert and Morris (1967) suggest the relationship may be the result of a third variable such as lower levels of ability in those with high test anxiety. Whist there is no clear conclusion about the causality of the relationship it is clear that many students believe that anxiety impacts on their test performance (Cassady & Johnson, 2002).

Given the perception by students that test anxiety impacts their performance and that experiencing anxiety is generally aversive, it is probable that test anxiety has far reaching consequences. Even without exam failure it can lead students to seek help, but it may also lead them to not continue with education or to choose careers with little evaluation and so compromise on earlier wishes (McDonald, 2001). In addition those with high test anxiety are likely to have lower self-esteem and perception of well-being and higher general anxiety than those with low test anxiety (Hembree, 1988); they also have higher levels of anxiety, depression and hopelessness than those with low test anxiety (King et al., 1995)

1.2.1.5 Summary

Test anxiety is influenced by a unique combination of individual, social, family, educational and experiential factors. Individual factors including increasing age, female gender and lower intelligence are correlated with higher levels of test anxiety. These interact with situational factors such as the nature of the task, perceived difficulty and performance expectations and are correlated with lower test scores. The causality of the relationship between test anxiety and reduced performance is unclear,
but the evidence tentatively points towards anxiety leading to poorer performance. Given this link and other consequences of test anxiety, such as not continuing in education or altered career choices, it is a significant problem that needs to be properly understood so it can be addressed.

1.2.2 Test Anxiety Theory

1.2.2.1 The development of models of test anxiety

The theoretical models of test anxiety have developed from early psychoanalytic models focusing on childhood trauma. The focus shifted to 'drive' and behavioural models in the 1960s (e.g. Mandler & Sarason, 1952) and has more recently developed in cognitive-behavioural understandings of test anxiety. These developments are outlined in detail in Appendix I, but key ideas within this framework have been the conceptualisation of test anxiety as a 'situation-specific anxiety trait' (Spielberger & Vagg, 1995 p.7), the appreciation of the need for a degree of anxiety to facilitate performance (Alpert & Haber, 1960), the recognition of the way in which test anxiety causes attention to be directed from the task in hand to task-irrelevant and self-defeating thoughts and actions (Wine, 1971) and the acknowledgement that some test-anxious students have a deficit in study and test-taking skills (e.g. Kirkland & Hollandsworth, 1980). A central concept is the presence of both worry and emotionality components in test anxiety (Liebert & Morris, 1967), whereby worry refers to the cognitive concern with the consequence of failure, where emotionality refers to autonomic arousal – these developments have culminated in the proposal of the Transactional Process model (Spielberger & Vagg, 1995).

1.2.2.2 The Transactional Process model

The transactional process model (Spielberger & Vagg, 1995) provides a framework for representing test anxiety as a situation-specific dynamic process. It emphasises the interaction, and mutual effect of personality and situational factors in which cognitive appraisal is central in mediating their impact on state anxiety. The model can be seen in Figure 1.
According to this model the exam will be appraised as more or less threatening as a result of individual and situational factors including: the subject of the test, study and test-taking skills and attitudes, and the importance of the test. The degree to which the test is appraised as threatening determines whether, and how much, anxiety is experienced. If the test is perceived as threatening the individual will experience an increase in state anxiety: heightened arousal, self-centred and self-derogatory worry cognitions, and information processing difficulties such as task-irrelevant thinking, distractibility and retrieval difficulties. Since the test-anxious person has stored self-derogatory worry cognitions from previous tests raised state anxiety activates a greater number of interfering worry responses. The worry and emotionality responses interfere with task performance.

Reciprocal influence between the components of this process and hence the cognitive and affective experiences provide feedback that alters the perception of the test as more or less threatening and so affect the anxiety experienced. Additionally, anxiety acts on the information-processing aspect of the model whereby attempts to recall information lead to reappraisal of the exam as more or less threatening depending on whether the information can be recalled. Reappraisal of the test as more threatening leads to increased anxiety and causes more task-irrelevant thoughts and behaviours.

The Transactional Process model indicates that interventions for test anxiety need to contain cognitively and emotionally focused components. As the components of the model interact so there will be reciprocal interactions amongst the treatment foci; this means modification of unhelpful appraisals may influence emotional arousal and vice versa. Support for the model mainly comes from studies examining this treatment approach. Vagg & Spielberger (1995) summarised the finding of studies that tested treatments targeting different components separately and in combination. They note that when delivered separately, cognitive treatments are more effective than emotionality focused treatments but that the most effective treatments overall are ones that contain both elements. Smith et al. (1990) provided additional support for the model by conducting hierarchical regression to compare the ability of different models to account for variations in academic performance and test anxiety. Their analysis revealed that variables from cognitive-attentional, skill-deficit and self-
efficacy models all contributed to the prediction of test anxiety and performance, thus highlighting the interaction of the multiple factors drawn upon by Spielberger and Vagg (1995).

Despite these positive research results it should be noted that only specific aspects of the model have been tested and Zeidner (1998) suggests that sophisticated structural equation modelling is required to test the validity of the complex relationships hypothesised. A weakness is that the model does not include the effect of post-exam feedback or individual factors such as motivation or self-efficacy beliefs.

1.2.2.3 Summary
There are many theoretical positions on test anxiety that make a valid contribution to understanding the phenomenon. However, the construct is complex and no one theoretical position has been able to account for its different facets; the situation is reflected in the complexity of the Transactional Process Model. This succeeds in drawing together the key facets of test anxiety that have been identified in the literature and makes clear recommendations for intervention; hence it provides a useful way of understanding the process, and will be adopted in this study.

**Figure 1 – Transactional Process Model (Adapted from Spielberger & Vagg, 1995)**

<table>
<thead>
<tr>
<th>Test taking situation</th>
<th>Intrapersonal Test-Taking Process</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Matter (Test Questions)</td>
<td>Storage</td>
<td>Task Relevant Behaviour (Answers to Test Questions)</td>
</tr>
<tr>
<td>Study Skills</td>
<td>Perception</td>
<td>Task Irrelevant Behaviour</td>
</tr>
<tr>
<td></td>
<td>Appraisal &amp; Reappraisal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test Taking Skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Worry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emotionality</td>
<td></td>
</tr>
</tbody>
</table>
1.2.3 Interventions for test anxiety

1.2.3.1 Introduction

Interventions for test anxiety fall into three broad areas that reflect the different theoretical accounts: emotion focused behavioural treatments, cognitive focused cognitive-behavioural treatment and skills focused techniques. The varying popularity of these alternate modalities has essentially mirrored the change in focus across all types of therapy (Spielberger & Vagg, 1987). Interventions in all three domains have been shown to be effective in reducing test anxiety, but multi-modal interventions, which combine elements from each domain, have been shown to be most effective (e.g. Vagg & Spielberger, 1995), as predicted by the Transactional Process Model. Consequently key interventions in each of these areas, and evidence for their effectiveness will be outlined before the way in which they are combined into multi-modal interventions is considered.

1.2.3.2 Emotion Focused Interventions

Key interventions in this area include relaxation training, systematic desensitisation and anxiety management training. Emotion-focused treatments aim to reduce physiological arousal and negative emotional affect.

Relaxation training

Relaxation training (RT) is directed towards modifying emotional reactions during testing based on the idea that relaxation and anxiety are mutually exclusive states. Widely used techniques include deep breathing (e.g. Meichenbaum & Genest, 1977) and progressive muscle relaxation (Jacobson, 1938). Research in this area has mixed outcomes. Some studies have reported RT to be an effective treatment for test anxiety (e.g. Topp, 1989) which improve grades, whilst others have shown it to be ineffective (Schuchman, 1977 cited in King & Ollendick, 1989). King & Ollendick (1989) have raised concerns that whilst most research in this area has been conducted with university students, the techniques may not be applicable to younger children. Overall Hembree’s (1988) meta-analysis concludes that relaxation techniques are effective for reducing test anxiety, but have a negligible effect on performance.
Systematic desensitisation

Traditionally systematic desensitisation (SD) has been thought to reduce test anxiety through counter-conditioning the original learned association between anxiety and evaluative situations (Wolpe, 1958). However this has been challenged as SD has been re-conceptualised as actively stimulating a cognitive coping process, which enables students to learn skills that are useful in reducing anxiety (Wine, 1971). The technique initially involves the client learning to relax, constructing a hierarchy of increasingly anxiety-provoking situations and then being guided through visualisation of these situations in turn. The client is usually required to remain in a state of relaxation at two presentations of each item before progressing to the next. Anxiety Management Training (AMT) is a variation of SD in which clients are taught to visualise stressful situations and use the anxiety as a cue to apply coping skills to reduce it. Hence the focus is on self-management rather than counter-conditioning.

SD has been found to be effective in reducing test anxiety in a number of studies with non-clinical samples and this has been confirmed by meta-analytic studies (e.g. Hembree, 1988). The effects of SD treatment appear to be maintained over at least a year (Deffenbacher & Suinn, 1988) and SD has been shown to be as, if not more, effective than relaxation training (Johnson & Sechrest, 1968) and study-skills training (Altmaier & Woodward, 1981). Whilst the weight of evidence lies with SD being effective at reducing test anxiety, its effect on test performance appears less certain. Hembree (1988) concludes that SD has a modest effect of improving grades, whilst Gonzalez (1978) found that most studies did not support an increase in test scores. This conclusion has been strengthened by a series of more recent studies (Vagg & Papsdorf, 1995; Gonzalez, 1995; Parker et al, 1995) in which eight groups were treated with SD in combination with other interventions and all but one showed no improvement in performance. AMT has also been shown to be effective and has the additional benefit of further reduction in anxiety after the end of treatment (Suinn, 1990).
1.2.3.3 Cognitive focused Intervention

The main interventions in this area are cognitive therapy and attentional training. Cognitive-focused interventions aim to alleviate task-irrelevant thinking and self-deprecatory worry.

**Cognitive Therapy (CT)**

CT refers to an array of approaches that aim to modify the worry and irrational thought patterns associated with test anxiety and replace them with more helpful and rational ways of thinking. The different procedures all assume that cognitive processes mediate emotional and behaviour responses to evaluation, and so are central to test anxiety. Key approaches in this area have been Rational Emotive therapy (Ellis, 1962) and Systematic Rational Restructuring (Denney, 1980), both of which focus on identifying and challenging unhelpful cognitions and developing alternative ones. In a review of CT interventions Algaze (1995) reported nine out of ten studies showed a significant reduction in test anxiety, but only two led to improvements in grades or performance on cognitive-intellectual tasks. This confirms Denny's (1980) conclusion to a similar review that CT is effective in reducing test anxiety but has inconsistent effects on test performance.

**Cognitive-Attentional Training (AT)**

AT is based upon the premise that training test-anxious subject to attend to task-relevant stimuli should reduce worry and so improve cognitive performance (Wine, 1971). Clients are instructed to focus on the task at hand, ignore external stimuli and re-direct irrelevant or self-deprecating thoughts and worry. This is achieved through a process of modelling, rehearsal and the use of on-task and positive self-evaluation statements. There is widespread support for AT reducing test anxiety and interference (e.g. Sud & Sharma, 1995). However the effects on performance are less consistent; some report improvements in performance (e.g. Sud & Sharma, 1995) whilst others report no improvement (e.g. Sud, 1994).
1.2.3.4 Skills Focused Interventions

Skills-focused interventions aim to improve study and test-taking skills and so address deficits that are thought to be important to the development of test anxiety.

Study Skills Training (SST)

SST is directed towards improving cognitive activities that affect the organization, processing and retrieval of information. It does not directly address the specific cognitive components of test anxiety, but is designed to augment other interventions (Vagg & Spielberger, 1995). Generally SST has two components: Study-skills training (Allen, 1973), which includes study planning, time management, monitoring study behaviours, enhancing reading and summarising skills; and test-taking-skills training, which includes surveying the length of the test, looking at the mark division, and leaving harder items to return to them later (Kirkland & Hollandsworth, 1980).

Reviews of research literature suggest that SST alone is not effective at reducing test anxiety or improving academic performance (e.g. Hembree, 1988). However, when combined with behavioural approaches, such as SD, it has been shown to be more effective at reducing anxiety and improving performance than either component alone (Hembree, 1988; Dendato & Diener, 1986). Vagg and Spielberger (1995) note that reducing test anxiety may facilitate performance if students are encouraged to practice their study skills, but that better study skills do not immediately lead to higher grades as time is required for improved skills to impact on performance. Unfortunately there are no long-term studies looking at the time needed for improved study skills to lead to improved grades.

1.2.3.5 Multi-modal Interventions

Multi-modal interventions combine techniques aimed at both cognitive and emotional components of test anxiety. A problem with this approach is that until recently it relied on technical eclecticism rather than arising from a coherent theoretical base (Zeidner, 1998). However the advent of the Transactional Process Model (Spielberger & Vagg, 1995) has overcome this. Multi-modal interventions often align
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themselves with cognitive behaviour therapy and the example of Cognitive-behavioural modification (Meichenbaum, 1972) will be looked at here.

Cognitive-Behavioural Modification (CBM)

CBM attempts to address both the worry and emotionality components of test anxiety, (Vagg & Spielberger, 1995). The intervention begins with understanding the individual nature of the response and giving education about the development and maintenance of test anxiety. During the second stage the client is taught a variety of coping skills including deep breathing and muscle relaxation, the use of self-instruction and coping self-statements, cognitive restructuring of worry thoughts, problem-solving approaches and self-reinforcement for coping (Zeidner, 1998 p.347). AMT systematic desensitisation is used to reduce anxiety and aid coping. During the final phase, skills learned in therapy are transferred to real-life situations through the use of exposure and homework.

A number of studies have suggested that CBM is effective at reducing test anxiety (Zeidner, 1998) and a meta-analysis of the literature found that CBM reduced debilitating test anxiety by approximately two-thirds of a standard deviation, and raised test performance by about half a standard deviation in school-aged children (Hembree, 1988). Nevertheless, studies have failed to conclusively identify whether there is a single effective component in this approach (Zeidner, 1998).

Research into other treatment combinations has added support for the use of multi-modal interventions. Wachelka & Katz (1999) conducted a randomised controlled pre- and post- intervention study to evaluate a treatment combining relaxation training, guided imagery, study and test-taking skills training and self-instruction training. This led to significant reductions in test anxiety and improvements in study skills and related self-esteem for the intervention group. Algaz (1995), and Dendato and Diener (1986) both found that combining cognitive therapy with other interventions such as relaxation skills, study skills or systematic desensitisation was more effective at reducing anxiety than either component alone. Yet, not all studies have supported this approach. McCordick et al. (1981) found that combining the cognitive component of CBM with test-taking practice was more effective than full
CBM at reducing anxiety, and Gonzalez (1995) reported no effect on test anxiety when SD was combined with study counselling. However Vagg & Spielberger (1995) observed that Gonzalez’s (1995) results could be due to the amount of information participants were required to learn, which led to an increase in anxiety that interfered with the usually effective SD. A final area of support for multi-modal interventions is that test-anxious individuals are not a homogenous group (Anton & Lillibridge, 1995). These interventions may be more effective as they are able to cater for the diverse needs of the population in a manner that is not true of single treatments.

1.2.3.6 Comment

Research assessing emotionality or worry focused interventions has shown both to be effective, although studies have generally had small sample sizes (Hembree, 1988). The evidence points towards a multi-modal approach being the most effective form of intervention, whilst the Transactional Process Model (Spielberger & Vagg, 1995) provides a solid theoretical basis for this approach, work still remains to be done on specifying the exact mechanisms that mediate treatment (Zeidner, 1998).

1.3 Computerised Psychological Interventions

1.3.1 The development of computer-based interventions

There have been attempts to develop computer-based psychological interventions since the 1970s (e.g. Biglan et al., 1979) in an effort to consistently provide replicable therapy (Cavanagh & Shapiro, 2004). Yet, until recently these preliminary attempts have been relatively unsuccessful (Cavanagh & Shapiro, 2004). However, the situation has now changed to the point where NICE Guidelines pertaining to computerised therapy have been published (NICE, 2006).

This development can be accounted for by a number of factors: CBT has become the treatment of choice for many psychological difficulties (e.g. NICE, 2004); The advent of CBT / behavioural therapy has led to therapy being understood as structured and systematic and so amenable to standardised delivery (Cavanagh & Shapiro, 2004);
computers have increased in sophistication and reduced in cost, making this form of intervention feasible (Caspar, 2004); there has been increased public and political pressure to increase access to psychological therapies (Layard, 2005); there is a growing evidence base for the effectiveness of computer-based therapies (Cavanagh & Shapiro, 2004). In recent years there has been a shift from stand-alone computer based interventions to Internet-based ones (Zuckerman, 2003). Fifty-seven percent of households in the UK currently have access to the Internet (National Statistics Online, 2006); consequently the Internet has the potential to reach large numbers of people at low cost (Strom et al., 2000) and increase the range of interventions available to include self-administered therapy, therapist contact via email or chat rooms and electronic bulletin boards and newsgroups focusing on specific topics to provide peer support.

1.3.1.1 Rationale for computer-based interventions

Internet-based interventions have many advantages. They have the potential to provide cost-efficient, home-based treatment programmes and so overcome the scarcity of therapist and access difficulties due to remote locations (Orbach et al., 2007) allowing timely access; they are available to people whose psychological difficulties such as agoraphobia, or physical disabilities make attending a clinic difficult. Interventions can be more flexible as they are independent of clinician working hours (Zabinski et al., 2003); indeed research suggests that most Internet therapy resources are accessed at times when traditional therapy would not be available (Winzelberg, 1997) and it has been argued that this autonomy increases the client’s responsibility for their own treatment, which encourages perceptions of mastery and control (Newman et al., 1997). Colby (1995) suggested that Internet based therapy allows clients to avoid the social stigma of seeking help for mental health difficulties and so more people may be willing to use it. Proudfoot et al. (2003) reported that people were more willing to disclose personal information and risk concerns such as suicide to a computer than to another human; this points to their utility, and suitability, for managing risk as long as feedback is passed to clinicians for review.
Clearly computer-based therapy is able to provide consistent, highly replicable interventions; programmes can be designed to automatically provide a range of more individually tailored treatment options in response to information provided (Budman, 2000); treatment compliance and outcomes can be easily and routinely monitored (Carlbring & Andersson, 2006); and computer-based treatments are ideal for research to identify effective components of treatment as they can be systematically altered (Greist, 1998).

1.3.1.2 Cautions to computer-based treatments

There are issues with access to computer- or Internet-based therapies as not all households have these facilities (National Statistics Online, 2006). However alternatives are available, such as providing ambulatory computers (Newman et al., 1997) or static services at GP practices (Proudfoot, Goldberg et al., 2003) or dedicated sites (Marks et al., 2003). Concerns have also been raised that the use of computers may compromise the therapeutic relationship, increase dropout rates or be unacceptable to clients (Newman et al., 1997). However several studies have found equal dropout rates and equal satisfaction when face-to-face therapy was compared to computer-based interventions (Marks et al., 2004) and so this appears to be unfounded.

An important concern is how psychological crises are identified and managed with Internet-based interventions. Carlbring and Andersson (2006) recommend that clients with significant depression, at risk of suicide or serious co-morbid psychiatric conditions be excluded from Internet-based treatments at initial assessment. They also recommend weekly monitoring of mental state for the duration of the treatment and the use of systems to notify the therapist once risk cut-off levels are reached. However, computer based interventions may also be provided to those who would not normally reach the threshold to access mental health services, such as people with moderate exam anxiety, and who may be expected to present with few risk concerns and so require little monitoring.
The use of Internet-based therapy raises a number of ethical considerations. Programmes require people to divulge personal information. To that extent there is a need for confidentiality and security and Nosek et al. (2002) recommend that all programmes should use secure sites, anonymous usernames and passwords, amongst other security measures. There is also the potential for vulnerable people to be exploited: Studies have demonstrated that the Internet can generate expectations that may inflate the effect of treatments (Richards et al., 2003) or place people open to abuse due to the amount of trust they place in websites (Briggs et al., 2002; Fisher & Fried, 2003); as such there is a need to ensure that marketed programmes are empirically validated and designed by qualified professionals (Childress & Asamen, 1998). As outlined above, risk management issues need to be considered with regard to Internet therapy; it is important that clients understand the nature and limitations of the service and should be given contingency plans for risk management and equipment failure (Maheu & Gordon, 2000), but this also highlights the importance of therapist initiated monitoring and contact during Internet-based interventions, as research suggests that participants are unlikely to initiate seeking support (Marks et al., 2007). Additionally, a section of the population who experience computer-/techno-phobia may be excluded from the advantages of computer-based therapy. However, research has repeatedly shown computer-based therapy to be widely accepted and steps can be made to reduce apprehension through thorough introduction and the use of brief personal or telephone support (Marks et al., 2007). For those in the clinical population who do not want computer-based therapy, face-to-face services must remain, whilst for those outside the clinical population alternative forms of self-help, such as books or videos are available.

1.3.2 Evidence for computer-based cognitive behaviour therapy

There is growing evidence that computerised CBT is an effective treatment option. Computer- and Internet-based CBT programmes have been developed and evaluated for a variety of psychological problems, including depression and anxiety (Proudfoot et al., 2004), phobias and panic (Marks et al., 2004), generalised anxiety (Newman et al., 1999) sexual dysfunctions (van Diest et al., 2007), test anxiety (Orbach et al., 2007) smoking cessation (Strecher et al., 2006), bulimic symptoms (Nevonen et al.,
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2006), chronic pain (Buenaver et al., 2006), childhood anxiety (Spence et al., 2006), complicated grief (Wagner et al., 2006), obsessive-compulsive disorder (Greist et al., 2002), post traumatic stress disorder (Maercker et al., 2004), chronic headache (Devineni & Blanchard, 2005), tinnitus (Andersson & Kaldo, 2004), social phobia (Andersson et al., 2006) and schizophrenia (Ahmed et al., 1997). Many of these studies have yielded positive results showing computer-based therapy to be superior to control groups (Orbach et al., 2007) or as effective as treatment as usual (Proudfoot, 2004). A selection of these studies is reviewed below.

Proudfoot et al. (2003) demonstrated the efficacy of an eight-session interactive, multi-media computerised CBT package, Beating the Blues (BtB). Proudfoot et al. (2004) extended this research with a large-scale randomised-controlled trail in primary care settings. 274 participants were randomised into either the BtB group or a treatment-as-usual group. Participants in the BtB group used the programme for eight weekly sessions and following a 15 minute introductory video they were guided through activity scheduling or problem solving techniques, graded exposure tasks, and cognitive restructuring exercises. Sessions took place at a primary care practice and a nurse was available to help, but her contact was restricted. The participant's GP received a weekly progress report and notification of any suicidal intent. At the end of the study both groups showed clinically significant change on measures of depression, with the BtB group showing greater improvement. Participants using BtB reported greater satisfaction than the treatment-as-usual group. This study demonstrates that computer-based interventions are effective, acceptable to clients and practical to deliver.

Greist et al. (2002) compared a computer-guided exposure and response prevention programme to treat obsessive-compulsive disorder (OCD) with face-to-face therapy or audiotape relaxation. The 218 participants in the trial were randomised to one of the three groups. The computer-based group accessed interactive voice response technology via the telephone for 10 weeks and were guided through describing their rituals, identifying triggers, deciding on goals and planning specific exposure tasks. Significant positive outcomes were reported for the computer-based and face-to-face groups, although the face-to-face outcomes were superior. The disparity was not
evident for computer-based participants who had completed at least one self-exposure session and this group also showed more improvement at 6-month follow-up than the other groups. This suggests that whilst face-to-face therapy was more effective, the computer-guided intervention is a useful first-step in treating clients with OCD.

Marks et al. (2004) conducted a study to compare the effectiveness of computer-guided self-exposure for phobia or panic disorder with face-to-face guided exposure or a placebo computer-guided relaxation programme. Both computer groups had access to brief back-up advice from clinicians. 93 participants were randomised between the groups; the computer guided group had the highest dropout rate, but dropouts from both exposure groups were significantly higher than in the relaxation group. After 10 weeks both exposure groups showed comparable significant improvement as rated by self- and blind-assessment, and comparable satisfaction at completion and one-month follow-up, whilst relaxation was ineffective. The authors conclude that despite the dropout rates self-exposure was effective and saved 73% clinician time per client compared to face-to-face treatment.

Orbach et al. (2007) evaluated an Internet-based treatment for exam anxiety. 90 participants were randomised either into the treatment group or a control group who used a placebo computer Internet-based programme. The intervention programme guided participants through relaxation exercises, cognitive restructuring tasks, information about study skills and using coping imagery. Participants were instructed to use the programme they had been assigned to for a minimum of 30 minutes per week for 6 weeks. Both groups experienced significant dropout rates and both groups showed significant improvement on test anxiety measure, but the intervention group showed significantly greater improvement and clinically significant change. The authors concluded the study supported the use of Internet-based CBT for the treatment of test anxiety.

1.3.3 Comment

Computer- and Internet-based psychological interventions are a rapidly developing area and existing evidence suggests they have potentially huge benefits. Nevertheless the research in this area is still limited; there is a lack of meta-analyses or systematic
reviews and cautions are still being raised about the quality of the research (Carlbring & Andersson, 2006). Future research needs to be well controlled and have powerful sample sizes; pragmatic research is needed to look at the role of computer-aided therapy in stepped care approaches and comparison with other forms of self-help; studies are needed to compare computer-based treatment with placebo programmes, interventions with longer and shorter therapist contact or groups and there needs to be more comparison of programmes against each other (NICE, 2006). Research also needs to investigate which individuals may not respond to computer-based treatment (Carlbring & Andersson, 2006) and what is the optimal level of clinician contact for clients using computer-based interventions (Finfgeld, 1999). At a wider level, computer-based treatments provide an ideal opportunity for therapy process research (Cavanagh & Shapiro, 2004).

1.4 The Present Study

1.4.1 Rationale

Test anxiety has been shown to be a widespread problem with potentially far reaching consequences, yet multi-modal (CBT) interventions, based on the Transactional Process Model (Spielberger & Vagg, 1995) are effective at reducing test anxiety. Orbach et al. (2007) showed that this treatment could be successfully delivered to university students via the internet. The current study extended the work of Orbach et al. (2007) to G.C.S.E and A-Level pupils. Since there may be differences in cognitive maturity, motivation and literacy level between school and university students it cannot be assumed that Orbach et al.’s programme is directly applicable to the younger group.

In preparation for this study the original programme was piloted by a group of G.C.S.E. and A-level pupils and adapted as a result of their feedback. The newly revised programme (Section 1.4.2) was evaluated in school children with self-identified test anxiety against a no-treatment control group. Orbach et al. (2007) had identified the need to determine whether the programme was more effective when
used in a highly structured manner or with free access and so this was also investigated.

The study employed well-established measures of test anxiety, comparable to those in Orbach et al. (2007) and general psychological well-being as well as qualitative measures to gain further information about participants' views on the intervention. The participants were followed up after their exam to gather information about their anxiety and performance in these.

1.4.2 The programme

The development of the programme, and more detail on its content are provided in Appendix II. The computer-based programme for exam anxiety is made up of five modules:

1. Introduction
2. Learn to relax
3. Thinking skills
4. Master study and exam skills
5. Control your stress

'Introduction' provides information about the symptoms and causes of test-anxiety as well as outlining the other programme modules. 'Learn to relax' teaches users relaxation techniques including breathing, progressive- and deep muscular-relaxation using interactive exercises. 'Thinking skills' introduces users to the role of thoughts in anxiety and guides them through a number of exercises to learn to challenge negative thoughts and develop more helpful alternatives. 'Master study and exam skills' provides advice on study and test taking skills, as well as managing anxiety during a test. The final module, 'Control your stress', guides users through an AMT based systematic desensitisation programme. The structure of the programme is illustrated in Figure 2.

The desired module is selected from a main menu, are numbered as shown and can be accessed in any order. It is possible to return to previous sections and progress
through others as desired. The programme is password protected on the Internet at URL: www.examexecl.co.uk.

**Figure 2 – The programme (adapted from Orbach et al., 2001)**

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Learn to relax</th>
<th>Thinking skills</th>
<th>Master study &amp; exam skills</th>
<th>Control your stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>About exam anxiety</td>
<td>About exam anxiety</td>
<td>Introduction</td>
<td>Introduction</td>
<td>Introduction</td>
</tr>
<tr>
<td>The symptoms</td>
<td>Relaxation techniques</td>
<td>Learn to identify unhelpful thoughts</td>
<td>Setting up a study plan</td>
<td>Build your own ladder</td>
</tr>
<tr>
<td>The vicious cycle of anxiety</td>
<td>My relaxation strategies</td>
<td>Learn to identify thinking errors</td>
<td>How to study</td>
<td>Climb to the next step</td>
</tr>
<tr>
<td>The exam advantage programme</td>
<td>My relaxation diary</td>
<td>Challenge your negative thoughts</td>
<td>Avoiding procrastination</td>
<td>The last step</td>
</tr>
<tr>
<td></td>
<td></td>
<td>My thought record</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>My coping card</td>
<td></td>
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<td></td>
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<tr>
<td>Breathing relaxation techniques</td>
<td></td>
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<tr>
<td>Muscular relaxation techniques</td>
<td></td>
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<tr>
<td>Instant Calm</td>
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</tr>
</tbody>
</table>
1.4.3 Aims

The study aimed to investigate the effectiveness of a computer-based intervention for test anxiety, which had been adapted for use by G.C.S.E. and A-level pupils and to extend the work of Orbach et al. (2007) to determine whether the programme is more effective when used in a highly structured manner or with unstructured access (see Section 1.4.1).

1.4.3 Hypotheses

Overall, the computer-based intervention for exam anxiety will be effective in reducing exam anxiety in the intervention group and acceptable to participants. This will be addressed by investigating the following hypotheses:

After the intervention participants in the intervention group will show:

• Significant reductions in test anxiety, as measured by the Test Anxiety Inventory (TAI; Spielberger, 1980)

• Significant improvements in general psychological well-being, as measured by the GP-CORE (Sinclair et al., 2005)

• Participants in the treatment group will show significantly greater improvements on the above measures, compared to participants in the control group.

• The treatment will be perceived as credible and useful by the treatment group, as assessed by qualitative post-intervention and follow-up questionnaire.

• At follow-up assessment post-exam, participants using the intervention will report reduced anxiety and improved performance in their exams, compared to exams taken prior to the intervention, as assessed by the state-trait anxiety inventory-short form (Marteau & Bekker, 1992) and a qualitative interview.
In addition, after the intervention there will be a significant difference on outcomes measures between those in the intervention group who use the programme in a structured way and those who have unstructured access.
Chapter 2
METHOD

2.1 Design
The study was a between-group design (intervention and control groups) with repeated measures (pre-intervention, post-intervention and follow-up). Participants were randomly assigned to one of the two intervention groups (structured or unstructured) or to the control group.

2.2 Participants
Power calculations based on Orbach et al. (2007) and Proudfoot et al. (2004) with 0.8 power and the conventional alpha of 0.05 for a one-tailed test were carried out using G-Power (Faul & Erdfelder, 1992). This suggested that a sample of 68 was required for the intervention-control comparison, whilst to establish the best method of programme administration, a sample of 114 was required for the structured-unstructured comparison (see Appendix III).

Schools were recruited to this study via an information letter (see Appendix IV). Individual participants were then recruited through presentation of the project at assemblies by the researcher, where they were informed that at the end of the study participants in each school would be entered into a draw for a gift voucher.

73 pupils were recruited to this study as volunteers who stated they experienced exam anxiety, and had access to a computer and the Internet. 24 were allocated to the intervention-structured group, 17 to the intervention-unstructured group and 32 to the control group. Random allocation was done by tossing a coin. 9 participants (12% of the total sample) dropped out of the study following the baseline measures: 2 from the structured group, 3 from the unstructured group and 4 from the control group. 64 participants completed the study: 22 in the structured group, 14 in the unstructured group and 28 in the control group.
2.2.1 Exclusion Criteria

Pupils were excluded from participating if they were under 16-years old or they were currently receiving medical / psychological help for exam anxiety; they were verbally informed of these limitations when being given general information about the study.

2.2.2 Enrolment and Consent

The study was submitted to the University of Surrey Research Ethics Committee and received approval (reference EC/2006/71/PSYCH, see Appendix V).

Participants were enrolled into the study by being given information about the study by the researcher and an opportunity to ask questions. Following this they completed the consent form (Appendix VI).

2.3 Measures

2.3.1 Test Anxiety Inventory (Spielberger, 1980; see Appendix VI)

The Test Anxiety Inventory (TAI) is a self-report measure and contains two subscales representing ‘worry’ and ‘emotionality’. There are 20 items each using a 4-point Likert scale to measure proneness to anxiety in test situations. The inventory contains items such as ‘I feel confident and relaxed while taking tests’ and ‘Thoughts of doing poorly interfere with my concentration on tests’. Total scores range from 20 to 80, with higher scores indicating higher levels of test anxiety. The TAI was standardised on high school and college students and found to be reliable, with Cronbach alphas of 0.92 or higher for each sample, and valid (Spielberger, 1980)

2.3.2 General Population-Clinical Outcomes in Routine Evaluation (Sinclair et al., 2005; see Appendix VIII)

The General Population-Clinical Outcomes in Routine Evaluation (GP-CORE) is a 14 item self-report questionnaire designed to measure general psychological well-being. It addresses subjective well-being, presence of problems/ symptoms and functioning and provides means and clinical cut-off point for different populations. The measure
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was standardised on a population aged 16-25 years old and shown to be valid and reliable, with a Cronbach alpha of 0.87 (Sinclair et al., 2005)

2.3.4 Demographics (see Appendix IX)

For the purposes of this study a demographics questionnaire was developed, which collected information on age, gender, school year and results in previous exams (G.C.S.E. mocks, G.C.S.E.s or AS-levels as appropriate). In addition information about how long they had experienced exam anxiety and what help they had ever sought in the past was collected.

2.3.5 Computer-based data

The computer programme recorded the number of times each participant logged in and which section they accessed.

2.3.6 Qualitative post-intervention questionnaire (Appendix X)

This consisted of 19 items and was designed to gauge participants’ views of the programme. Questions focused on their views of the programme (e.g. ‘what was the most helpful section of the programme?’); the way the programme was delivered (e.g. ‘did you find having a set time to use the programme helpful or unhelpful?’); and possible future use of the programme (e.g. ‘will you use the programme again?’)

2.3.7 Post-exam follow-up (Appendix XI)

The questionnaire designed by Orbach et al. (2007) was used to measure anxiety relating to a recent exam. This is an adapted form of the State-Trait Anxiety Inventory – short form (STAI-s; (Marteau & Bekker, 1992). Orbach et al. (2007) adapted the instructions to the STAI-s to ask participants how they felt during a recent exam and previous exam, rather than focusing on their current anxiety as in the original instructions of the STAI-s. Participants were also asked whether they thought their exam performance had improved.

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2.4 Apparatus

The programme was presented on the Internet and accessed through an individual username and password. Participants required access to the internet at home or school on a standard multimedia computer.

2.5 Procedure

The procedure can be seen in Figure 3 and is explained in more detail below.

*Figure 3 – Diagram of the procedure*

- **Enrolment and Baseline measures**
  - Information sheet and consent forms
  - Participants randomised into 3 groups
  - Administer baseline measures (TAI, GP-CORE, demographics)

- **Intervention groups**
  - Introduced to computer package and rationale

- **Structured-time group**
  - Use package for 30-60 minutes per week at pre-agreed time at school for 6 weeks

- **Unstructured-time group**
  - Use package for a minimum of 30 minutes per week for 6 weeks at home or school

- **Control group**

- **Post-intervention**
  - Administer questionnaires (TAI, GP-CORE)
  - Post-intervention qualitative questionnaire
  - Introduce control-group to computer package and rationale

- **Post-exam follow-up telephone interview of those who used the programme**
  - Post exam follow up questionnaire
2.5.1 Enrolment and Baseline Measures

The enrolment and baseline measures were completed in two separate sessions in the participants' schools. During the first session consent was obtained and in the second session the baseline measures were completed and participants were introduced to the programme.

1. Information and consent - Participants read the information sheets relating to the study, had the opportunity to ask questions and signed the consent form.

2. Date collection – Participants completed three questionnaires in the following order: Demographics, Test Anxiety Inventory (TAI) and GP-CORE.

3. Informed of groups – Participants were informed of which group they had been randomised into and those in the control group were told “at the end of the research, in 6 weeks time, you will be given a username and password for the programme and be able to use it until the summer.” Those in the control group then left. The intervention group participants were informed of their individual username, password and the Internet address for the programme.

4. Introduction to the programme – All participants were provided with a rationale for the different sections. They were informed that the programme was confidential and for their use only, that some of the strategies required practice and may not have immediate effect. They were instructed to contact the researcher by email or telephone should any technical difficulties arise or if they had any questions.

5. Instructions regarding programme use - The unstructured-intervention group were instructed to use the programme for a minimum of 30 minutes per week for 6 weeks and then left. Each participant in the structured group agreed an individual time to use the programme for 30-60 minutes each week for 6 weeks with the researcher.
2.5.2 Computer Based Intervention

Participants were introduced to the programme, and agreed to use it in the manner described above. Emails were sent to each participant each week providing them with the rationale for that week's suggested section and encouraging them to make the most of the programme.

2.5.3 Post Intervention

Six weeks after the introduction to the programme participants were again seen at their school. At this time they completed the TAI and the GP-CORE again. The intervention groups also completed the post-intervention qualitative questionnaire. Participants in the control group were introduced to the programme and given access to it through an individual username and password. Participants in the intervention groups were encouraged to continue using the programme until their exams. Both groups were informed that they could use the programme as much or as little as they wished.

At each school a draw for a gift voucher was then completed.

2.5.4 Follow-up telephone interview

Two-month follow-up was attempted with all participants via telephone. Retrospective data was collected on their anxiety about a recent exam and one before the study, and their current confidence of success using Orbach et al.'s (2007) follow-up questionnaire.
Chapter 3

RESULTS

3.1 Analysis

The data from the TAI and follow-up measures was normally distributed and was analysed using analysis of variance. The GP-CORE data was not normally distributed and could not be transformed successfully; hence non-parametric tests were used in analysis. The sample did not approach the size needed to powerfully analyse the different modes of administration, and no differences were found between these groups, consequently the two intervention groups were collapsed and analysed as one group. Analysis for the dependent variables was conducted between groups (intervention and control) and within groups (pre- post-treatment), and effect sizes are shown using Pearson correlations, r (Field, 2005). Non-parametric chi-squared tests were used on categorical data. The method of administration (structured and unstructured) was investigated using exploratory t-tests. A significance value of 5% was used for all tests and analysis was undertaken using SPSS for Windows (Version 14.0).

3.2 The sample and dropout

3.2.1 The sample

The sample comprised 64 secondary school pupils working for G.C.S.E.s and A-Levels (N=36 intervention group; N=28 control group). In the intervention group 22 were allocated to the structured-administration group and 14 to the unstructured-administration group. There were more female (N=37) than male (N=27) participants and ages ranged from 16.0 years to 18.2 years (mean 16.7 years); 61% of the sample were in Year 11, whilst 25% were in Year 12 and 14% in Year 13. English was the main language for all participants and they reported experiencing anxiety about exams for a mean of 3.2 years (range 0-10 years). 47% (N=30) reported having previously failed an exam whilst 27% (N=17) considered they had been ill as the result of exam
anxiety; 13% (N=8) had taken medication for this. 2 participants had seen a psychologist or counsellor for help with exam anxiety, but 15 (23%) had searched the Internet for help with exam stress. 11% (N=7) had received help from a psychologist or counsellor for reasons other than exam anxiety. There was a low response rate to questions about previous exam results, but the mean G.C.S.E. grade was an A (range E-A*, N=38). A description of the participants in the intervention and control groups can be seen in Table 1.

Chi-squared and t-tests were used to investigate difference between participants in the groups. The mean age of the control group was greater than the intervention group and the intervention group had a longer mean duration of exam anxiety. Chi-squared statistics could not be reported for school year; use of medication or psychological help for exam anxiety or other reasons as the expected values of some cells was less than 5. Informal consideration suggests a significant difference on either measure of psychological help is unlikely, but there may be differences between school year and the use of medication.

The intervention group had a mean TAI total score of 45.17 (range 26-75), and mean GP-CORE of 1.54 (0.21-3.72), whilst the control group had a mean TAI total of 43.32 (range 20-62) and mean GP-CORE of 1.40 (0.05-2.14). Possible differences between groups on the baseline dependent variable measure were considered using t-tests and Mann-Whitney U tests. There were no significant differences between the total Test Anxiety Inventory score or the GP-CORE mean score (TAI total: t(62)=0.60, p=0.549; GP-CORE: U=478.00, p=0.729). 47% (N=17) of the intervention group, and 40% (N=11) of the control group showed GP-CORE scores within the clinical range (Sinclair et al., 2005). In addition, according to the TAI manual (Spielberger, 1980), the initial mean for total TAI score is above the 50th percentile, indicating a moderate level of anxiety in both groups. Baseline TAI and GP-CORE scores were highly correlated with each other (r=0.577, p=0.000).
Table 1 - Description of the participants by group

<table>
<thead>
<tr>
<th></th>
<th>Intervention group (N=36)</th>
<th>Control group (N=28)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male=18 (50%) Female=18 (50%)</td>
<td>Male=9 (32%) Female=19 (68%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>\chi^2(1)=2.06 p=0.151</td>
</tr>
<tr>
<td>Age (s.d.)</td>
<td>16.5 (0.49)</td>
<td>17.0 (0.70)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>t(56)=-2.72 p=0.009*</td>
</tr>
<tr>
<td>School Year</td>
<td>Year 11=26 (72%) Year 12=8 (22%) Year 13=2 (6%)</td>
<td>Year 11=13 (46%) Year 12=8 (29%) Year 13=7 (25%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>\chi^2(1)=0.32 p=0.57</td>
</tr>
<tr>
<td></td>
<td></td>
<td>\chi^2(1)=0.06 p=0.803</td>
</tr>
<tr>
<td>English as main language</td>
<td>36 (100%)</td>
<td>28 (100%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean number of years experiencing exam anxiety (s.d.)</td>
<td>3.8 (2.27)</td>
<td>2.6 (1.83)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>\chi^2(1)=2.06 p=0.045*</td>
</tr>
<tr>
<td>Previously failed an exam</td>
<td>Yes=18 (50%) No=18 (50%)</td>
<td>Yes=12 (43%) No=16 (57%)</td>
</tr>
<tr>
<td>Became ill due to exams</td>
<td>Yes=10 (28%) No=26 (72%)</td>
<td>Yes=7 (25%) No=21 (75%)</td>
</tr>
<tr>
<td>Taken medication to due to exam anxiety</td>
<td>Yes=6 (17%) No=30 (83%)</td>
<td>Yes=2 (7%) No=26 (92%)</td>
</tr>
<tr>
<td>Sought psychological help due to exam anxiety</td>
<td>Yes=1 (3%) No=35 (97%)</td>
<td>Yes=1 (4%) No=27 (96%)</td>
</tr>
<tr>
<td>Sought psychological help for reasons other than exam anxiety</td>
<td>Yes=4 (11%) No=32 (89%)</td>
<td>Yes=3 (11%) No=25 (89%)</td>
</tr>
<tr>
<td>Searched in Internet for help with exam stress</td>
<td>Yes=8 (22%) No=28 (78%)</td>
<td>Yes=7 (25%) No=21 (75%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>\chi^2(1)=0.068 p=0.80</td>
</tr>
</tbody>
</table>

3.2.2 Dropouts

Nine participants dropped out from the study, 5 from the intervention group and 4 from the control group. Within the intervention group 2 were from the structured-administration subgroup and 3 from the unstructured-administration. No participants formally withdrew from the study, rather those who dropped out did not attend the data collection session and did not respond to further invitations, so it was not possible to ascertain their reasons for dropping out. Owing to the small number of dropouts it was not possible to statistically analyse the differences between the sample and the dropouts. Nevertheless a descriptive comparison between the sample and the
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dropouts is shown in Table 2. Two of the dropouts did not provide descriptive information. Inspection suggests it is unlikely that there are significant differences between the sample and the dropouts on any demographic measure. It is possible that there is a difference between the baseline TAI scores for the sample and dropouts with the dropouts scoring higher, but there does not appear to be a difference on the GP-CORE, however these conclusions are tentative due to the very small number in the dropout group.

Table 2 - Comparison of the sample and dropouts

<table>
<thead>
<tr>
<th></th>
<th>Sample (N=64)</th>
<th>Dropouts (N=9)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>27 (42%)</td>
<td>5 (56%)</td>
</tr>
<tr>
<td>Female</td>
<td>37 (58%)</td>
<td>4 (44%)</td>
</tr>
<tr>
<td><strong>Age (s.d.)</strong></td>
<td>16.7 (0.62)</td>
<td>16.4° (0.33)</td>
</tr>
<tr>
<td><strong>School Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 11</td>
<td>39 (61%)</td>
<td>7 (78%)</td>
</tr>
<tr>
<td>Year 12</td>
<td>16 (25%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>Year 13</td>
<td>9 (14%)</td>
<td>0</td>
</tr>
<tr>
<td><strong>English as main language</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>64 (100%)</td>
<td>7° (78%)</td>
</tr>
<tr>
<td>Missing</td>
<td>2 (22%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td><strong>Mean number of years experiencing exam anxiety (s.d.)</strong></td>
<td>3.2 (2.13)</td>
<td>3.00° (2.16)</td>
</tr>
<tr>
<td><strong>Previously failed an exam</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>30 (47%)</td>
<td>3 (33%)</td>
</tr>
<tr>
<td>No</td>
<td>34 (53%)</td>
<td>4 (44%)</td>
</tr>
<tr>
<td><strong>Became ill due to exams</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>17 (27%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>No</td>
<td>44 (73%)</td>
<td>5 (56%)</td>
</tr>
<tr>
<td><strong>Taken medication to due to exam anxiety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8 (13%)</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>56 (87%)</td>
<td>7 (78%)</td>
</tr>
<tr>
<td><strong>Sought psychological help due to exam anxiety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2 (3%)</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>62 (97%)</td>
<td>6 (67%)</td>
</tr>
<tr>
<td><strong>Sought psychological help for reasons other than exam anxiety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7 (11%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>No</td>
<td>57 (89%)</td>
<td>5 (56%)</td>
</tr>
<tr>
<td><strong>Searched in Internet for help with exam stress</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15 (23%)</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>49 (77%)</td>
<td>7 (78%)</td>
</tr>
<tr>
<td><strong>Mean baseline TAI score (s.d.)</strong></td>
<td>44.31 (12.79)</td>
<td>47.75 (17.36)</td>
</tr>
<tr>
<td><strong>Mean baseline GP-CORE score (s.d.)</strong></td>
<td>1.48 (0.69)</td>
<td>1.40 (0.78)</td>
</tr>
</tbody>
</table>

°Note, N=5, °Note N=7
3.3 Pre-Post-intervention analysis

Pre- and post-intervention scores for each measure can be seen in Table 3. The results of the analysis of each measure are discussed in turn and test statistics, significance values and effect size are reported in each case.

*Table 3 - Mean, range and standard deviations of pre- and post-intervention scores for each dependent variable, by group. (Range, standard deviation)*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Treatment group (N=36)</th>
<th>Control group (N=28)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
</tr>
<tr>
<td><strong>TAI Total</strong></td>
<td>45.17 (26-75,13.83)</td>
<td>39.47 (23-66,12.10)</td>
</tr>
<tr>
<td><strong>TAI Emotionality</strong></td>
<td>19.83 (11-32, 6.00)</td>
<td>17.19 (8-31,5.82)</td>
</tr>
<tr>
<td><strong>TAI Worry</strong></td>
<td>15.39 (7-29,5.08)</td>
<td>14.19 (8-27,5.10)</td>
</tr>
<tr>
<td><strong>GP-CORE</strong></td>
<td>1.54 (0.21-3.72,0.82)</td>
<td>1.27 (0.29-2.86,0.59)</td>
</tr>
<tr>
<td><strong>GP-CORE above clinical</strong></td>
<td><strong>Yes=17 (47%)</strong></td>
<td><strong>Yes=9(25%)</strong></td>
</tr>
<tr>
<td><strong>cutoff level</strong></td>
<td><strong>No=19 (53%)</strong></td>
<td><strong>No=27(75%)</strong></td>
</tr>
</tbody>
</table>

3.2.1 The Test Anxiety Inventory (TAI)

A 2x2 repeated-measures ANOVA of TAI scores, with between group factors being the intervention or control group and the within group factors being TAI scores at time 1 and time 2, was used. TAI total scores (TAI_total) showed a significant main effect of TIME (F(1,62)=8.60, p=0.005, r=0.35), and a significant GROUP x TIME interaction (F(1, 62)=9.04, p=0.004, r=0.36). There was no main effect of GROUP (F(1, 62)=0.097, p=0.756, r=0.04). The same pattern of results was found for TAI emotionality scores (TAI_em) with between group factors being intervention and control group and within group factors being scores at time 1 and time 2; a significant main effect of TIME (F(1,62)=4.58, p=0.036, r=0.26) and a significant interaction of GROUP x TIME (F(1,62)=5.39, p=0.024, r=0.28) were found. There was no main
effect of GROUP ($F(1,62)=0.19$, $p=0.665$, $r=0.06$). For TAI worry scores (TAIworry) with between group factors being intervention and control group and within group factors being scores at time 1 and time 2, a significant GROUP x TIME interaction was found ($F(1,62)=5.13$, $p=0.027$, $r=0.28$), but no main effect of TIME ($F(1,62)=0.026$, $p=0.872$, $r=0.06$) or GROUP ($F(1,62)=0.03$, $p=0.854$, $r=0.02$) was present.

The main effects of TIME and GROUP x TIME interactions for TAItot and TAIem indicated that test anxiety scores were lower post-intervention than pre-intervention, and that there was a greater reduction in test anxiety in the intervention group (See Figures 4 and 5). The presence of a GROUP x TIME interaction for the TAIworry scores indicates that there was a significant difference in the magnitude of change in scores between the control and intervention groups (See Figure 6). The significant main effects and interactions found for all TAI measure show medium or small-medium effect sizes according to Cohen's convention for Pearson r (Cohen, 1992) meaning that use of the programme accounts for a substantial amount of the improved TAI scores shown by the intervention group.

There was a significant difference between the mean age of the intervention and control groups, consequently a oneway ANOVA for change in TAI score by school year was conducted. This showed age to have no bearing on the effectiveness of the programme ($F(2,63)=2.39$, $p=0.100$).

In summary, the data shows a significantly greater reduction in TAI total, emotionality and worry scores for the intervention group compared to the control group.
Figure 4 - Mean pre-intervention post-intervention TAI scores

![Graph showing mean TAI total scores pre and post intervention for Intervention and Control groups.](image)

Figure 5 - Mean pre-intervention post-intervention TAI emotionality scores

![Graph showing mean TAI emotionality scores pre and post intervention for Intervention and Control groups.](image)

Figure 6 - Mean pre-intervention post-intervention TAI worry scores

![Graph showing mean TAI worry scores pre and post intervention for Intervention and Control groups.](image)
3.3.2 The General Population CORE

Wilcoxon Signed-rank tests were used to investigate within group differences. There was a significant reduction in GP-CORE means score following the intervention for the intervention group \((T=207.5, Z=-1.973, p=0.048, r=0.25)\) but there was no significant change for the control group \((T=166.5, Z=-0.541, p=0.589, r=-0.06)\). Mann-Whitney U test showed no significant difference between the intervention and control group GP-CORE scores post-intervention \((U=427.00, p=0.30)\). The effect size shows the improvement in general psychological well-being to be at a small to medium level for Pearson's r (Cohen, 1992).

3.3.3 Clinical Significance

3.3.3.1 Test Anxiety Inventory

Orbach et al. (2007) report clinically significant change on the TAI total score to be a change of 6 points for an individual. According to this criterion 50% of the intervention group and 36% of the control group showed clinically significant improvement. The TAI manual (Spielberger, 1980) specifies a large change on the TAI as being of at least 14 points. Reductions of this magnitude occurred in 13% of the intervention group and none of the control group. Hence, although change occurred in both group it was more frequent and of greater magnitude in the intervention group.

3.3.3.2 GP-CORE

At baseline 47% of the intervention group reached the clinical cut-off level for the GP-CORE; after intervention this reduced to 25% of the intervention group. Using a Chi-squared Test, this was found to be a significant change \((\chi^2(1)=9.00, p=0.003)\) and indicated an improvement in general psychological well-being in the intervention group. There was no change in the proportion of the control group reaching the clinical cut-off level (See Table 3).
3.3.4 The effect of amount of programme use

There were low levels of use of the programme amongst the intervention group, 42% (N=15) of the intervention group did not use the programme at all and those who did varied in the amount they used it; no one used the programme to the extent recommended (Table 4). Given this low completion rate it is not possible to draw firm conclusions about the effect of frequency of use on reduction in test anxiety, but visual inspection indicated a trend: Using the programme, even just once, lead to larger reductions than being able to use it but choosing not to, which is in turn greater than the control group reductions. There were no demographic differences between those in the intervention group who used the programme and those who did not. The number of times each module was used can be seen in Table 5.

Table 4 - Amount of programme use by the intervention group and mean TAI total score change

<table>
<thead>
<tr>
<th>Number of time used programme</th>
<th>Frequency</th>
<th>Mean TAI total score change (s.d.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15 (42%)</td>
<td>2.87 (4.73)</td>
</tr>
<tr>
<td>1</td>
<td>11 (31%)</td>
<td>9.64 (10.74)</td>
</tr>
<tr>
<td>2</td>
<td>5 (14%)</td>
<td>9.20 (13.33)</td>
</tr>
<tr>
<td>3</td>
<td>3 (8%)</td>
<td>2.33 (1.53)</td>
</tr>
<tr>
<td>4</td>
<td>1 (3%)</td>
<td>-5.00 (-)</td>
</tr>
<tr>
<td>5</td>
<td>1 (3%)</td>
<td>8.00 (-)</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 5 - Frequency of use of different modules

<table>
<thead>
<tr>
<th></th>
<th>Introduction</th>
<th>Learn to relax</th>
<th>Thinking skills</th>
<th>Master study skills and exam techniques</th>
<th>Control your stress</th>
<th>Develop your own strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency* (N=20)</td>
<td>20</td>
<td>19</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

*Some participants used the same module more than once

3.3.5 The effect of mode of programme administration

A statistically powerful comparison of structured administration and unstructured administration could not be carried out due to sample size, but exploratory analysis indicates there was no difference in change on the TAI between the groups
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\( F(1,35)=0.004, p=0.948 \). In addition, there was no significant difference in number of people using the programme at least once between groups \( \chi^2(1)=0.29, p=0.593 \) and there was no substantial difference in those who dropped-out \( N=2 \) structured administration, \( N=3 \) unstructured administration.

3.5 Qualitative post-intervention questionnaire

At the end of the intervention qualitative questionnaires were completed by the intervention group. 33 questionnaires were returned (92%); 16 participants had not used the programme, and 17 had. The questions can be separated in five areas: the usefulness of the programme (questions 1-7), anxiety and confidence about exams (questions 11-16), future use of the programme (17-18) and general comments (19-20). General themes are outlined in each of these areas from those who used the programme \( N=17 \).

3.5.1 Usefulness of the programme

Twelve participants reported finding the programme useful, one found it unhelpful and 4 gave equivocal answers such as ‘sort of’. 10 felt they had learned useful strategies to cope with exams, 2 did not answer the question and 5 felt they had not learned useful strategies. The frequencies of the modules reported as most and least useful is shown in Table 6.

Participants’ accounts of what they had learned from the programme varied. Gaining relaxation skills (e.g. ‘how to calm myself and so focus on the task’), developing cognitive skills (e.g. ‘to recognise negative thoughts and develop an alternative perspective’, ‘stop unhelpful thoughts’ and ‘understanding the role of thoughts in anxiety’), and study skills (e.g. ‘the importance of planning time and starting revision in advance’) were all considered important.
Table 6 - Frequencies of most and least helpful modules in the programme*

<table>
<thead>
<tr>
<th></th>
<th>Introduction</th>
<th>Learn to relax</th>
<th>Thinking skills</th>
<th>Study skills</th>
<th>Control your stress</th>
<th>Develop your own strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most useful (N=11)</td>
<td>9</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Least useful (N=4)</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Many participants did not respond to these questions

3.5.2 Changes in anxiety and confidence about exams

The majority of participants report a decrease in anxiety about exams, greater confidence in their ability to control their anxiety before and during exams and improved confidence in succeeding in the exams. The results are shown graphically in Figures 7-9.

Figure 7 - Change in anxiety about exams

![Figure 7]

Figure 8 - Change in confidence about being able to control anxiety before and during exams

![Figure 8]
3.5.3 Accessibility and delivery of the programme

Using a computer to deliver the programme

Table 7 shows that most participants considered it an advantage to have the intervention delivered by computer. Reasons included a) it can be accessed easily at any time, b) feeling people of their age are very comfortable with computers and it might increase the willingness of people to seek help, c) a preference for the impersonal nature of computer-based interventions, d) the visual nature of this approach with interactive sections and demonstrations. One person suggested that it was difficult to concentrate on a computer screen for extended periods of time and one participant considered computer-based interventions to be a disadvantage due to technical difficulties. Whilst considering it to be an advantage that the intervention was computer based, 4 participants also stated they would prefer face-to-face therapy as it would increase programme adherence.

Table 7 - Accessibility and delivery of the programme

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer-based intervention is an advantage</td>
<td>15</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Face to face intervention preferable</td>
<td>4</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Preference for fixed schedule for use</td>
<td>4</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Preference for flexible use</td>
<td>15</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>
3.5.4 Fixed versus flexible schedule for programme use

Overall there was a preference for the programme to be able to be used whenever required. Yet participants in the structured administration group were meant to use it during free periods or lunchtimes and felt there were other things they needed to do during these times. Some participants in both groups considered that a fixed time with more structure than in this study was the only way they would make time to use the programme.

3.5.5 How early before exams should the programme be used?

11 participants felt the programme should be used several months before exams, whilst 2 felt it should be immediately before.

3.5.6 What made it difficult to use the programme?

Those in the intervention group who did not use the programme were asked for feedback on what made it difficult to use. Most cited having too much work, or resenting the use of free time and feeling the programme was time consuming. Some reported the fixed schedule making it difficult to adhere to, whilst others cited the lack of structure in administration as causing difficulties. Two reported that technical difficulties prevented use. It was notable that only five participants contacted the researcher during the course of the study for assistance with technical difficulties, and these were mainly remedied.

2.5.7 Future use of the programme

Nine participants stated they would use the programme again, 3 would not and 4 were unsure whether they would. Most reported they would use the relaxation section again (N=6), a minority reported they would use the thinking skills (N=2) and study skills (N=1) sections; 4 participants stated they would use the entire programme.
3.5.8 General Comments

A number of improvements to the programme were suggested including removing the voice over, as this was experienced as irritating by some participants; speeding-up the graphics and removing the need for additional software; having music in the background; and ensuring you could skip to the next screen without having to miss sections.

3.6 Follow-up

Twenty-five participants completed the follow-up telephone interview. Three participants could not complete the questionnaire as they had not taken any exams at the time of follow-up, two had requested not to take part and the remaining could not be contacted as they had not provided telephone numbers or were not available at the necessary time. All participants had access to the programme following the intervention; by the time of follow up 16 had used the programme at least once, 9 had not used it and this differentiation is used in analysis.

3.6.1 Anxiety about recent exams

Participants were asked about their anxiety about recent exams. Anxiety appeared highest for both groups just prior to the exam, with the highest frequency of participants feeling 'extremely anxious'. Participants who had used the programme appeared to experience lower levels of anxiety than those who had not both during and after the exam; approximately 90% of those who used the programme experienced little or no anxiety during the exam, whilst all of them were in this range after the exam. The frequency of responses is shown in Table 8. Fifteen of those who used the programme stated they felt less anxious about exams than before, whilst 6 of those who had not used it reported no change in anxiety.
Table 8 - Frequency of levels of anxiety about a recent exam by programme use

<table>
<thead>
<tr>
<th>Programme use</th>
<th>Not anxious</th>
<th>A bit anxious</th>
<th>Moderately Anxious</th>
<th>Extremely Anxious</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the weeks before the exam</td>
<td>Used</td>
<td>7 (44%)</td>
<td>2 (13%)</td>
<td>6 (38%)</td>
</tr>
<tr>
<td></td>
<td>Not used</td>
<td>1 (11%)</td>
<td>6 (67%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>Just before the exam</td>
<td>Used</td>
<td>1 (6%)</td>
<td>9 (56%)</td>
<td>4 (25%)</td>
</tr>
<tr>
<td></td>
<td>Not used</td>
<td>1 (11%)</td>
<td>3 (33%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>During the exam</td>
<td>Used</td>
<td>8 (50%)</td>
<td>6 (38%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Not used</td>
<td>3 (33%)</td>
<td>1 (11%)</td>
<td>4 (44%)</td>
</tr>
<tr>
<td>After the exam</td>
<td>Used</td>
<td>13 (81%)</td>
<td>3 (19%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Not used</td>
<td>7 (78%)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

3.6.2 STAI-short form

Mean STAI-s scores also reported a greater change in anxiety about exams for those who had used the programme compared to those who had not; there was a reduction of 3.94 points for the former group but only 0.22 points for the latter (Table 9). A 2x2 repeated measures ANOVA, with between group factors being used programme and not used programme (GROUP) and within group factors being STAI-s score relating to exams before and after the intervention (TIME), showed there to be a significant main effect of TIME (F(1, 23)=7.15, p=0.014, r=0.49) and a significant interaction of TIMExGROUP (F(1,23)=5.71, p=0.026, r=0.43), but there was no main effect of programme use. This means there was a significant reduction in anxiety scores for those who used the programme, where as there was no change for those who did not. The effect sizes are medium to large and suggest that a substantial amount of the reduction is due to use of the programme. Given the small sample these conclusions are tentative.

Table 9 - Mean STAI-s for exams taken before and after study (s.d.)

<table>
<thead>
<tr>
<th>Programme use</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used programme</td>
<td>16.50 (3.60)</td>
<td>12.56 (3.33)</td>
</tr>
<tr>
<td>Not used programme</td>
<td>15.00 (4.09)</td>
<td>14.78 (4.60)</td>
</tr>
</tbody>
</table>

3.6.3 Programme usefulness

Twelve out of the 16 participants who had used the programme reported it had helped them to cope better with exams. Many cited the relaxation exercises as especially
useful (e.g. “It taught me breathing exercises for when I got panicky.” – participant 121) whilst others reported a change in their thinking about exams (e.g. “It gave me other ways of seeing the situation, which made me less worried” – participant 107). Figure 10 shows the participants’ estimates of improvements in performance. The majority of those who used the programme estimated they had performed better in recent exams than those before the study, whilst the majority of those who had not used the programme considered that there had been no change in their performance.

*Figure 10 - Estimates of performance in recent exams*
Chapter 4
DISCUSSION

4.1 Overview
The main aim of this study was to evaluate the effectiveness of a computer-based intervention to reduce exam anxiety in school pupils sitting G.C.S.E. and A-Level examinations. This extended the work of Orbach et al. (2007) by modifying the intervention programme to make it suitable for a younger age group and by using a no-treatment control group rather than a placebo-control intervention. The study’s secondary aim of establishing whether the mode of programme administration (structured or unstructured) affected outcome could not be met due to a small sample size. There was no difference in outcome between the structured and unstructured groups and consequently they were combined and analysed as one intervention group, and will not be reported on further. Quantitative and qualitative measures were used, and a post-exam follow-up was included.

In this chapter the results of the study will be summarised and then discussed in more detail in relation to the hypotheses. Next, theoretical and clinical implication of the results will be explored. Finally the limitations of the study and ethical issues will be outlined before possible areas for future research are considered.

4.2 Summary of findings
Overall the programme was shown to be an effective intervention for exam anxiety as the intervention group showed greater reduction in exam anxiety, and greater improvements in psychological well-being, than the no-intervention control group. The outcomes were both clinically and statistically significant, with small to medium effect sizes suggesting the programme is a useful intervention. The benefits of the programme were maintained at follow-up with those who had used the programme reporting lower anxiety about recent exams and increased confidence in their performance. In addition, the majority of those who used the programme reported
finding it useful and liked the computer-based delivery, suggesting that it is an acceptable intervention. Consequently all of the initial hypotheses are confirmed. Trends in the results provide tentative support for the effectiveness of multi-modal interventions for exam anxiety, which in turn adds to the evidence base for the validity of the Transactional Process Model (TPM).

4.3 Discussion of findings

4.3.1 The sample
Participants in both the intervention and control groups showed moderate levels of baseline test anxiety, which they had experienced for a mean of 3.2 years, but there was a wide range of duration. The duration of the anxiety suggests it had been present since exams became significant for individuals; for some this was during independent junior school entrance exams, whilst for others it was during Key Stage 3 SATs or G.C.S.E.s. Many participants reported adverse effects of test anxiety, such as exam failure, and had required medical or psychological help. Thus, even though the test anxiety was only of a moderate level, it appears to be stable and to have been associated with adverse events; consequently it is worth addressing. The level of anxiety shown was lower in this study than in Orbach et al. (2007). The data on previous exam grades indicated the sample were high achieving, which may account for the lower levels of test anxiety, as there is a general inverse relationship between IQ/attainment and test anxiety (Hembree, 1988).

Approximately 25% of the sample had searched the internet for help with exam anxiety. This proportion is substantially higher than in Orbach et al. (2007) and reflects the increasing range of help available on the internet and centrality of its position in daily life in the six years since Orbach et al.'s study was conducted in 2001. This also suggests that participants may be comfortable using internet-based resources.

A substantial minority of the sample had sought psychological help for difficulties not related to exam stress. When this is combined with 43% of the sample being at or
above the clinical cut-off level on the GP-CORE, it shows a high level of general psychological distress amongst the participants. The baseline GP-CORE scores correlated significantly with the baseline exam anxiety scores, but there may also be other stressors operating. Regardless, they are a population in significant distress.

4.3.2 Attrition

There was a relatively low dropout rate of only 12%. Participants did not inform the researcher of their intention to withdraw from the study, and although attempts were made to follow-up it was not possible to ascertain why they dropped out. There were no significant differences between those who dropped-out and those who completed the study, suggesting that none of the variables measured were influential in the attrition rate. A review of the literature reveals wide variability in dropout rates in computer-based treatment trails. For example, Marks et al. (2004) report a dropout rate of 43% from a computer-based programme for panic and phobia, whereas Klein and Richards (2001) report only a 4% dropout. In open trials Bachofen et al. (1999) reported a dropout rate of 50% from an intervention for OCD, whilst Orbach et al. (2007) reported a 31% dropout rate from this exam anxiety programme. Consequently this study has a low dropout rate for an open trial, which will be discussed later.

4.3.3 Effect of the programme

The intervention brought about significant reductions in test anxiety and improvement in psychological well-being for the intervention group, but not the control group, which confirms hypotheses 1, 2 and 3. Similarly, more participants in the intervention group were brought out of the clinical range than in the control group on both measures. These outcomes were supported by participants stating they felt better able to cope and less anxious about exams and suggest that the programme is effective at reducing test anxiety and improving psychological well-being. The mode of programme administration (structured / unstructured) did not appear to have any effect on outcome. The intervention appeared to affect components of test anxiety, as described in the TPM, differentially; the intervention group showed a significant
reduction in emotionality scores, but not worry scores on the TAI. This probably reflects the greater use of modules in the programme that target the emotionality components of test anxiety, such as ‘learn to relax’, rather than modules that address the worry (cognitive) components, such as ‘thinking skills’. This supports the separation of worry and emotionality constructs in the literature, and the implication of the TPM that the most effective interventions will contain elements that target both facets.

The intervention group showed a smaller mean reduction in TAI scores (3.90 points) than in Orbach et al’s (2007) study using the university student version of this programme (10.38 points). However, there was an uneven pattern of programme use in the current study; many of those in the intervention group did not use the programme and the reduction in their TIA scores is much less (2.87 points) than those who did use the programme (7.71 points), although this value was also affected by one participant who showed a substantial increase in exam-anxiety post-intervention. This suggests the overall results underestimate the effectiveness of the programme, and Orbach et al. (2007) gives a more accurate indication of the potential of this programme to reduce exam anxiety. Taken in conjunction with Orbach et al’s (2007) results it does appear that this programme leads to smaller reduction in test anxiety than other interventions, for instance Algaz (1995) reported a drop of 27 points following a multi-modal intervention, yet there are possible explanations for this.

Orbach et al. (2007), and the current study, recommended using the programme for at least a total of 3 hours. This makes it a short, non-intensive intervention that offers little support or guidance to participants in comparison to other test anxiety treatment, which range between 10 and 16 hours (Algaze, 1995; Gonzalez, 1995). Consequently, smaller reductions in TAI scores might be expected. However, additional factors also need to be considered in the current study to account for the small reduction in TAI score: the average total use of the programme was 32 minutes, much less than Orbach et al.’s (2001) 5½ hours. This suggests that not all areas of the programme will have been used and so not all of the elements necessary for most effective treatment, as indicated by the TPM, will have been accessed, but it also suggests that very brief interventions can make a significant difference. This implies the model is valid in
proposing that intervention at any point in the model will have some effect, although
the most effective interventions will target each facet. Another reason might be that
the sample in the current study had only moderate baseline levels of test anxiety,
rather than the high levels shown in other studies (e.g. Orbach et al., 2007; Algaz,
1995), this makes large reductions in test anxiety less likely as more participants are
nearer the floor of the measures.

High baseline levels of psychological distress, and the correlation of this with baseline
TAI scores, supports Hembree's (1988) conclusion that test anxiety is associated with
a lower sense of well-being. It also highlights the heterogeneity of those with exam
anxiety (Anton & Lillibridge, 1995); some participants experience only test anxiety,
whilst others experience test anxiety alongside a range of other psychological
difficulties or life events. The significant reduction in proportion of participants above
the clinical cut-off suggests that treating even moderate levels of exam anxiety leads
to an improvement in psychological well-being and so is beneficial. It also suggests
that exam anxiety may be a contributory factor to lack of psychological well-being in
this group.

This study shows that very brief use of an intervention can lead to significant
reductions in test anxiety and improvements in psychological well-being; there may
be a number of explanations for this. The introduction and relaxation sections were
widely used. Information in the introduction may have normalised, and so reduced
anxiety about exams, whilst relaxation to target the emotionality components of the
TPM has been shown to be an effective intervention for exam anxiety on its own
(Hembree, 1988). These modules may also have reminded participants of strategies
they had been taught elsewhere and so reinforced existing coping mechanisms. Taken
in combination these factors may have been enough to substantially reduce moderate
test anxiety. An interesting consideration is that inspection of the data also suggests
that TAI scores for those in the intervention group who did not use the programme,
decreased more than those in the control group. This could possibly be explained by
the programme being seen as a rescue factor (Salkovskis, 1996), whereby the
availability of help, even though it is not accessed, reduces anxiety. This may have
led to reductions in anxiety for the entire intervention group as they knew that that
they could access the programme until after their exams and so the external help remained available to them. Rescue factors are not explicit in the TPM and this is a factor that does not seem to be widely considered in the computer therapy literature, yet may be significant in understanding why computer-based interventions that can be accessed independently are effective and acceptable.

4.3.4 Follow-up

At follow-up those who had used the programme reported lower levels of anxiety about recent exams compared to exams before the study, and perceived their performance had improved; no such effect was seen amongst those who did not use the programme and consequently hypothesis 5 is confirmed. This suggests that the effects of the programme generalise to real-life exam situations and endure over time. This is very similar to the follow-up results in Orbach et al.’s (2007) study where highly significant differences were found and it provides further support for the effectiveness and utility of the programme. This result increases the ecological validity of the findings since it relates to actual anxiety in exams, rather than using test-anxiety measures which report on the general concept of exam anxiety; this approach makes a valid contribution to the literature (Orbach et al., 2001).

4.3.5 Use and acceptability of the programme

Participants who used the programme reported finding it helpful and thought they would use it again. This suggests the programme is acceptable and so confirms hypothesis 4. However, there was a very low completion rate which needs to be considered so that changes can be made as necessary. Marks et al. (2007 p.217) defines completion rate as “the proportion of people who use a [computerised psychotherapy] system for a given number of sessions or length of time previously agreed between therapist and patient.” In the current study no participant used the programme as agreed. However, this is not uncommon with unsupported internet-based programmes: Christensen et al. (2004b) reported a ≤5% completion rate for an online depression package, whilst Farvolden et al. (2005) found only 1% completed the Panic Program. The literature suggest that low completion rates are associated
with higher baseline scores, lower satisfaction and lower improvements (Marks et al., 2007). In contrast, in the current study there were no significant differences between those who used the programme and those who did not, although the sample was too small to draw statistically valid conclusions. What prevented participants using it as agreed, or at all, seemed to be time pressures and too much coursework, difficulty organising their time and technical difficulties.

Participants reported work pressures and technical difficulties prevented them from using the programme as agreed, but additional factors may be important: Orbach et al. (2001) note that high levels of motivation and commitment are required to use unsupported programmes and so only moderate levels of anxiety combined with the constant flow of exams and coursework that school pupils face may have made it difficult to make using the programme a priority. School pupils are also unfamiliar with self-directed study and may not have developed the self-discipline to work independently. This effect may have been compounded by registration for the study being easy: all contact took place through participant’s schools and so little additional effort was required to register or complete measure, in fact pupils may have considered participating advantageous as they missed assembly to complete measures. Strom et al. (2000) observed that individuals may volunteer to take part in internet-based studies impulsively, without considering the necessary commitment and so may dropout or not complete due to the demands of treatment. It may be that pupils registered without thinking about the commitment required and so did not use the programme, but continued to complete measure as this was relatively undemanding. These factors are specific to intervening with adolescents instead of university students and may account for the differences between the current study and Orbach et al.’s (2007) outcomes. However, wider cultural factors, such as the attitudes to exams and coping with exams in the educational environment, family or peers group will also influence whether the programme is used; these beliefs will affect programme use by both school and university students.

There may be some factors in the design of the programme that contributed to the low completion: The participants in this study are probably highly computer literate given the prevalence of computers and internet facilities at home and school. In 2000
Nielsen reported that if a user cannot access a website within 10 seconds they will leave it. This suggests that technical difficulties such as slow graphics, problems logging on and the need for additional software may have meant participants did not persist in trying to access the programme. Orbach et al. (2007) used online feedback questionnaires that were completed at each logout, but which were not available for this study. These may have increased the perception of being monitored and so increased adherence (Marks et al., 2007).

Participants reported finding the programme useful and much of the feedback was comparable to Orbach et al. (2001). The 'Learn to relax' module was considered the most helpful module and was popular in both studies. This may be because relaxation skills can improve affect immediately, whereas techniques such as cognitive restructuring require practice before they are effective. There was great variation in how frequently the different modules were used, with those at the beginning of the programme being used more than the later ones. It is interesting that the study skills module was not used at all. This may reflect participants feeling they already possessed these skills, yet the qualitative comments indicated that information in the introduction about study skills had been useful, so indicating the module is still necessary. All of the modules are indicated by the TPM, but variability in their use suggests that some interventions may have more face validity than others. This could be addressed by making their purpose clearer in the introduction, or making access to the modules sequential rather than displaying them all on the title screen. However, this would also reduce flexibility in the programme, which may not be desirable.

Most participants considered it an advantage to deliver the intervention by computer and stated they would not prefer face-to-face therapy, which suggests the intervention is acceptable. The positive attitude towards computer-based therapy is consistent with the literature (Cavanagh et al., 2006a). Participants liked the computer-based administration as it was convenient and could be accessed flexibly, which echoes much of the rationale for this type of therapy (Marks et al., 2007); they liked the interactive nature of the programme, which supports Orbach et al.'s (2001) findings; and some appreciated the anonymity of computer-based therapy, which is consistent with reduced feelings of stigma reported in the literature (Colby, 1995) and improved
disclosure (Proudfoot, Goldberg et al., 2003). Some participants who considered the computer an advantage also felt that face-to-face therapy might improve adherence. This opinion is not clearly supported by the literature, Marks et al. (2004) demonstrated equal dropout rates for face-to-face therapy and computer based interventions but the social aspect of face-to-face therapy might be thought to improve adherence.

Participants expressed a preference for being able to use the programme whenever they chose. However, the low completion rates, and comments indicating that lack of organisation prevented participants using the programme suggests that pupils of this age are not able to plan their time and motivate themselves to use it, even with reminder emails. This suggests that it would be best for the programme to be used in a structured way either as an integral part of the school curriculum, as it contains study skills and other generalisable skills, which are useful even for those who are not anxious about exams, or by having individual appointments at a designated site in the manner that Beating the Blues (Cavanagh et al., 2006a) is used. The majority of participants wanted to be able to use the programme some months before their exams, which supports Orbach et al.'s (2001) recommendations.

4.4 Theoretical and clinical implications of the results

This study found the intervention to be both effective at reducing test anxiety and acceptable to G.C.S.E. and A-level pupils. This adds to the literature already discussed (Proudfoot, Swain et al., 2003) that provides support for computer-based therapy as an effective intervention for a variety of psychological problems and in particular supports the use of CBT principles in this way. It also supports the finding of Orbach et al. (2007) that exam anxiety can be treated successfully using computer-based therapy, strengthens the evidence base for this particular programme as an effective and acceptable intervention, and extends it to show the programme is effective for those with moderate exam anxiety, as well as high levels of anxiety. The association of reduced emotionality scores with the dominant use of the relaxation module suggests that different modules of the programme target different components
of exam anxiety, which provides tentative evidence for the theoretical validity of the programme.

The study confirms the effectiveness of multi-modal interventions to manage test anxiety, as recommended by Spielberger and Vagg (1995). It suggests that even very brief interventions based on these principles can be effective and that not all areas need to be addressed to achieve meaningful results. It also suggests that clients are able to select modules relating to areas they need to address. This has clinical implications for allowing clients to guide their own interventions, which computer-based therapy is ideally situated to provide.

Moreover the study provides evidence for the TPM of exam anxiety. Greater use of the programme was associated with using more modules and a greater reduction in anxiety, supporting the model’s claim that all of the areas are significant facets in test anxiety. Reductions in emotionality, but not worry, appear to relate to the way modules targeting these areas were used or not used. This provides support for the differentiation of the two components in the literature (Liebert & Morris, 1967) and in the model. However, the possible trend for the intervention group to show improvement without using the programme highlights the need for greater understanding of how threat to self is appraised in the TPM. It suggests that rescue factors (Salkovskis, 1996) may need to have more prominence, especially in a culture where the amount of advice students are given about coping with exam anxiety could be increased.

This study also suggests there is a relationship between test anxiety and psychological well-being. At present the direction of the relationship is not clear, indeed it may be mediated by other factors, but it seems possible that psychological well-being could impact on worry, emotionality and the level of perceived threat, and so affect test anxiety. Currently the TPM only appears capable of describing 'pure' test anxiety, in the absence of other distress, which is contrary to Anton and Lillibridge’s (1995) observations about the heterogeneity of people with test anxiety. For general psychological distress to be incorporated into the TPM, either as a cause or a consequence, wider situational and individual variables, outside of the narrow domain
of test anxiety, would have to be considered. As well as incorporating psychological
distress, the TPM needs to be able to include the influence of individual beliefs about
the importance of exams and the impact of family, peer group, school and wider
cultural beliefs about academic success and the importance of exams since, at present
the TPM does not explicitly take these factors into account.

The baseline measures highlight that some young people experience test anxiety in the
absence of other psychological distress, whilst others experience it alongside
clinically significant levels of distress. The correlation between reduction in test
anxiety and improvement in psychological well-being suggests that it is helpful to
address test anxiety, even when it is not known whether there are other stressors
contributing, and the programme can be a low-intensity way of achieving this. On a
wider clinical front the high level of general psychological distress seen in this group
shows the need for easily accessible interventions for a variety of problems.
Computerised therapy provides an ideal way to do this and is in line with both stepped
care approaches (e.g., NICE, 2004) and the move to provide integrated services at
school to make them more accessible (Department for Education and Skills, 2003).

4.5 Recommendations for future use of the programme

This study took place in a school setting with very little clinician support, which is the
environment it was designed for. It suggests that the level of distress experienced by
school pupils is appropriate for the programme and that it can be used with little
professional support or screening. However, consideration still needs to be given as
to how to manage any distress or risk issues that are raised. One possibility would be
for it to be monitored by the school nurse or another person with counselling or
pastoral responsibilities. Thought is needed about whether the programme should be
used by selected individuals or by the whole school as an integrated part of the PSHE
or exam preparation timetable, and how it should be administered as discussed in
Section 4.3.5. Furthermore, the question of whether pupils will be reluctant to practice
the practical elements of the programme, such as breathing exercises, in a classroom
setting or whether a more private environment is preferable needs to be addressed.
Whilst a private environment may improve participation, it also reduces the potential for normalising exam anxiety through being with others.

Changes need to be made to improve the completion rate of the programme, these could include: Participants completing a feedback form on their progress during each session that is automatically turned into a report and emailed to them. (Marks et al., 2007) or by requiring participants to report in via email each week, with reminders sent if there is no contact (Strom et al., 2000). An alternative is to schedule telephone contact, or a brief appointment with the person monitoring the programme in the school to create a deadline effect (Marks et al., 2007). However, if it is going to be possible for a large number of pupils to use the programme in a school setting, the means of monitoring cannot be time-consuming. An additional means to improve completion rates, especially to facilitate first use, is to reduce the technical difficulties. Login and registration needs to be reliable and Flashplayer needs to be an automatic plugin since the current study, and previous research (e. Kenwright et al., 2005), suggests that users are unlikely to initiate contact with support services.

4.6 Limitations of the study

There are a number of limitations to this study. The most important is the low rate of programme use by the intervention group. Participants cited reasons such as volume of work, lack of time and technical difficulties for not using the programme, rather than it not being useful. Consequently the low completion rate is not a threat to the study’s validity; rather it suggests that the effectiveness of the programme to reduce exam anxiety may be underestimated.

The absence of feedback questionnaires at the end of each session meant that immediate feedback and duration of session data was not collected. A longer development period for the programme would have been beneficial to reduce the technical difficulties. Some of the technical difficulties, such as slow graphics, could be reduced by providing the programme as software for a standalone PC rather than on the internet, but this would reduce the accessibility and increase the costs.
A further limitation is that, from the data available, the sample appears to be very high achieving. This does not reflect the general population, or the association of test anxiety with lower academic achievement (Hembree, 1988). However, the study does represent schools and pupils that were interested in using the programme, albeit in a research context, and so is likely to represent those who would choose to use it if it was freely available at school. It is also important to note that most other research into exam anxiety interventions is carried out with university students who will be high achievers academically, so the current sample may be comparable to other research in this area. As well as being high achieving, the participants had lower levels of anxiety than in comparable studies (e.g. Orbach et al., 2007). Whilst some had very high levels of anxiety (≥96th percentile) it is interesting to note that those with much lower levels of anxiety (e.g. ≤20th percentile) still wanted help. This was an open study and so the participants may reflect those who would choose to use the programme. Since the sample are those who considered a computer-based intervention acceptable, generalisations cannot be made about how effective or acceptable the programme would be in the absence of choice about type of intervention.

The sample size was sufficient for a powerful comparison of the control and intervention groups; unfortunately it was not large enough to investigate the consequences of a structured- compared to unstructured-administration. This resulted in tentative conclusions that require further research. In addition, the sample was not big enough to powerfully compare the effects of being able to use the programme, but choosing not to, and using the programme. Again, conclusions in this area are tentative. A no-intervention control group was used rather than a placebo control to extend the work of Orbach et al. (2007). However, this means that the effect of rescue factors due to an intervention being available could not be controlled for. Comparison of the intervention with both a no-treatment control group and a placebo, would allow any effect to be identified.

Few participants were available at follow-up, which again limits the validity of the findings. Participants in the control group had to be given access to the programme post-intervention for ethical reasons: Some participants did not make use of this so tentative comparison could be made between those who used it and those who did not.
However, rescue factor effects may be operating in the no use group as the programme was still available to them and these may have reduced the apparent effectiveness of the programme. There were some limitations in the data collection including not using TAI and GP-CORE data at follow-up. This would have allowed more meaningful comparison, but was not possible due to the exam commitments of the participants. Also at follow-up the participants were asked to report retrospectively on an exam taken before the intervention and this may be subject to recall bias; it would have been preferable for this data to be collected during the baseline. If more precise information about the specific symptoms of exam stress experienced had been collected, different factors that may influence the effectiveness of the programme could have been investigated and would have permitted development of a profile of those most and least likely to benefit from it.

4.7 Ethical considerations

Attempts were made to manage ethical concerns about restricting access to interventions through allowing all pupils of the appropriate age in the school, who were not receiving help elsewhere, to participate in the study. A low percentage of those who were eligible for the intervention chose to participate, which suggests they did not feel under pressure to comply and that the potential power imbalances of their position as pupils, whilst the researcher was sanctioned by the authority of the school, was not significant in enrolment; although, this may have played a part in the low dropout rate. Attempts were made to manage this through the information sheets clearly stating they were free to withdraw at any time. Concerns regarding the control group not having access to an intervention that was thought to be effective were managed by allowing them access to the programme at the end of the study, which gave them sufficient time to use it before their exams. Attempts were made to minimise disruption to their schooling through carrying out data collection during assemblies and at break-times, with permission of the school. Any possible effect of raising their anxiety through making them more aware of it was managed through clear information about what participating would involve and the availability of the intervention to everyone after the study, so enabling them to address their anxiety. Participants were also instructed to contact the researcher if they had any concerns.
4.8 Future research

This study raises a number of potential future research avenues. It would be informative to repeat the current study, having made adjustments to improve the completion rate and use consistent measures from enrolment to follow-up, to establish a more accurate picture of the programme's effectiveness. Moreover, studies could be undertaken to compare the effectiveness of the programme to book or video-based self-help interventions for exam anxiety, or face-to-face therapy. In the current study it was not possible to determine whether structured or flexible administration of the programme affects outcome so this remains to be established, although the organisational difficulties of the current age group suggest this question may be more relevant to a university student population.

This study also raised the question of which components of the programme are most effective. Clinically significant reductions in exam anxiety were observed with brief use of the programme and so further research is needed to establish which modules are most effective for whom. Identifying these factors would raise the possibility of individually tailored interventions. In light of this, the optimum number of sessions to use the programme for maximum effectiveness needs to be investigated. Orbach et al. (2001) highlighted the need for further research into the optimum pace and duration for an intervention since computer-based therapy programmes vary with some being provided daily over a short period of time (e.g. Klein & Richards, 2001) whilst others are provided weekly over a longer duration (e.g. Proudfoot, Goldberg et al., 2003).

There are further practicalities of programme use that need to be considered including: should it be an integrated part of the curriculum or an optional extra? Should it be completed by the whole school or only a self- or teacher-selected sample? Is it more beneficial for participants to use the programme with others or alone? These questions could be answered by survey methods. The sample in this study was self-selecting and presumably found a computer-based intervention acceptable in principle. Since those with moderate and even high levels of exam anxiety are unlikely to be able to access clinical services for alternative interventions, it is important to establish its acceptability and effectiveness in a more general school
sample. This could be achieved in cohort design study and would also address the question of its utility to pupils of different backgrounds and academic abilities.

For this programme, with this age group, further development is needed to attempt to improve adherence rates, using methods such as automatic feedback or scheduled reporting times. The effects and acceptability of these developments then need to be evaluated. A further advance could be the development of a computerised exam anxiety programme suitable for younger children since McDonald (2001) raised that exam anxiety is now being identified in primary school aged children.

At a wider level, there is a paucity of research into computer-based interventions with this age group. Young people in this age group appear to be very comfortable with computers and so this could be a valuable means of intervention, since clinical services are stretched. A survey of the literature indicates that interventions for children are aimed predominantly at the 7-14 year age group (Marks et al., 2007), whilst other programmes focus on the adult population; it appears important to develop and evaluate programmes suitable for adolescents. This seems especially relevant given the high levels of general psychological distress identified in this study, and also points to the need for greater understanding of the relationship between test anxiety and psychological well-being, possibly looking at the role of life events as identified by Anton and Lillibridge (1995).

This study raised the question of the role of rescue factors both in the availability of independently accessible computer-based therapy and their specific role in threat appraisal in the TPM. These could be investigated further by comparison of computer-based interventions with both no-treatment and placebo control groups and could lead to further refinement of the TPM. Furthermore, the role of general psychological distress in test anxiety needs to be better understood and the way it impacts on the TPM considered, as described in Section 4.4. On a more general level the low level of completion and way participant reports of use differed from computer records of use suggests it is important to externally monitor programme use when assessing the effectiveness of computer-based interventions in future research.
4.8 Conclusion

Test anxiety is a widespread problem that may have long-term consequences for the academic and vocational prospects of those who experience it. It cannot be given high priority by mental health services due to limited resources and competing priorities, but it may not need to be, as research by Orbach et al. (2007) suggests that even high levels of exam anxiety can be successfully treated by unsupported computer-based CBT.

This study extended the work of Orbach et al. (2007) by adapting their computer programme for university students to be suitable for G.C.S.E. and A-level pupils and trialed its effectiveness against a no intervention control group. Despite a very low completion rate the programme was shown to be effective at reducing exam anxiety and improving general psychological well-being. Moreover, the improvements showed by the intervention group were significantly greater than those in the control group, maintained at follow-up and achieved medium effect sizes. Consequently this study provides further support for the effectiveness of Orbach et al.'s (2007) programme and its applicability to a wide age range, with minimal adaptation, and adds to the evidence base for computer-based therapy and Spielberger and Vagg's (1995) Transactional Process Model of exam anxiety. In turn, the programme provides a means to meet the current agendas for stepped care and more integrated and accessible services for children, as it can be delivered to pupils who would otherwise not be able to access services, in a school setting, with very little specialist support.
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Appendix I

Models of Test Anxiety
A Brief Overview of the development of Test Anxiety Theories

Early theories
The concepts of anxiety and fear have long been viewed as important aspects of human behaviour and experience and are reported in classical literature. Serious research has been taking place in the field of test anxiety for over one hundred years, possibly as testing has become more prevalent in society. Early studies focused on describing the associated physical arousal and Spielberger and Vagg (1995) note that test anxiety was initially conceptualised within psychoanalytic theory and considered to result from childhood trauma. From the 1930s test anxiety research assumed a more behavioural framework, later the emotional component of test anxiety was recognised and more recently research developed into a cognitive behavioural understanding within which many facets have been identified, which shall be reviewed here.

Drive theories
With the rise of behaviourism during the 1950s came concerted efforts to study and explain test anxiety. The pioneers of this work were Mandler and Sarason (e.g. Mandler & Sarason, 1952). They considered anxiety to be an indicator of drive towards learning and performance and suggested that evaluative situations produced higher levels of anxiety drive in test anxious individuals than in non-test anxious individuals, which resulted in higher levels of worry and autonomic arousal. They viewed these responses as task-irrelevant and incompatible with good performance; hence they posited that highly test-anxious individuals would show decrements in performance compared to those low in test anxiety.

Stait-trait
Spielberger (1966) differentiated between State anxiety, experienced in a particular situation and Trait anxiety, which refers to a relatively stable individual proneness to anxiety. This distinguished between stress that was associated with the test situation, the individual subjective perception of a test as threatening, and the consequent emotional experience. It is the perception of the situation as threatening that leads to anxiety. Test-anxious individuals have been found to generally have higher trait anxiety, to perceive tests as more threatening, to perform more poorly in situations
where achievement is emphasised, to experience more intense and frequent state anxiety in exam situation, and show greater physiological arousal and more self-centred, task irrelevant worry (Sarason et al, 1960; Spielberger, 1980). As such test anxiety is a 'situation-specific anxiety trait' (Spielberger & Vagg, 1995 p7).

Facilitating and debilitating anxiety
The idea that anxiety can be either facilitating or debilitating has been in the literature since its inception (McDonald, 2001), however this is not an idea that has been widely studied. The main attempt to look at the role of facilitating anxiety in test performance was Alpert and Haber (1960). They conceptualised test anxiety as an inverted-U whereby individual's performance was inhibited, facilitated or not affected by anxiety. This extended Sarason et al's (1952) suggestion that debilitating anxiety was defined by responses that were incompatible with or interfered with the task, where as facilitating anxiety raised the general drive level and improved performance. They developed the Achievement Anxiety Test to measure both facilitative and debilitating anxiety, but it was not able to separate the two constructs consistently. Despite the acceptance of this concept in the literature (e.g. Hembree, 1988; McDonald, 2001) there has been little further investigation of it or its effects.

Worry and Emotionality
Liebert and Morris (1967) conceptualised test anxiety as having two major components: worry and emotionality. Worry is the cognitive component which is “primarily cognitive concern with the consequences of failure” (Liebert & Morris, 1967, p975), whilst emotionality is the autonomic reaction evoked by evaluation stress. This distinction was based on factor analysis of the Test Anxiety Questionnaire and has become widely accepted (Keogh et al, 2004). Whilst the two dimensions correlate quite highly (Anderson & Sauser, 1995) they show different patterns of relationship to other variables. Worry interferes with task performance where as emotionality is unrelated to decrements on cognitive tasks (Liebert & Morris, 1967). Wine (1971) suggested that worry diverts attention from the task to self-criticism and task-irrelevant thoughts so causing the observed decrease in performance.
Cognitive-attentional Models
Wine's (1971) ideas developed into a 'cognitive-attentional' model for test anxiety, which heralded a shift from focusing on motivation or arousal to focusing on cognitive variables. According to this model a test anxious person's attention is diverted from the task to task-irrelevant thinking and self-defeating thoughts so distracting them and interfering with effective use of their time in the test. These thoughts also trigger increased physiological arousal. There has been much empirical support for this perspective (Zeidner, 1998) arising from the difference in the number of self-derogatory worry cognitions between high and low test anxious individuals (e.g. Sarason & Ganzer, 1963). This has significant implications for treatment approaches as it suggests that highly test-anxious individuals should be trained to counter their task-irrelevant and self-focused worries and instead to focus on task relevant cues.

Skills deficit Models
A further development that arose out of the suggestion that test-anxious students needed to redirect their attention to the task in hand, was that they had a deficit in study and test taking skills (e.g. Kirkland & Hollandsworth, 1980). The poor study skills are thought to arise from inadequate parental or academic instruction in study and test-taking skills, which leads to information being inadequately learned and organised and so impairing performance. Culler & Holahan (1980) suggested that high anxiety in the testing situation is the consequence of knowing one is poorly prepared, and that recall of inadequately encoded material leads to impaired performance. The increase in self-deprecating worry cognitions is the result of repeated experiences of failure (Covington & Omelich, 1988). The treatment implications for this approach are that anxiety will be reduced and performance improved if study and test-taking skills are improved.

This model is supported by findings that highly test-anxious students have poorer study skills than those with low scores for test anxiety (Culler & Holahan, 1980). However there have been criticisms of this model: the relationship has not always been replicated (Zeidner, 1998), students with good study skills report cognitive
interference during tests (Naveh-Benzamin et al., 1987), and highly test-anxious students report spending more time studying, which is contrary to the model.

**Other perspectives**

Many of the theories outlined above have been developed to provide alternate understandings of test anxiety: Keogh et al. (2004) have extended the cognitive-attentional perspective to suggest that susceptibility to distraction by non-threatening stimuli (in their study words) influences performance in test anxious individuals. This research is in its infancy, but could lead to resurgence in attentional training as an intervention. Alternatively Zohar (1998) reported that test anxiety could be predicted by self-efficacy beliefs before the exam. This would support an additive model of test anxiety whereby secondary exam-specific appraisals combine with primary dispositional factors and the authors proposed a reframe of the Stait-Trait model (Speilberger, 1972). Additionally, a self-regulation model (Caver & Scheier, 1991) and a self-worth model (Covington, 1992) have been proposed, although at present both models lack detail and empirical support (Zeidner, 1998).
Appendix II

Development and content of the programme for exam anxiety
Development of the programme

The programme is based on that developed by Orbach et al (2007) and is a multi-modal intervention devised according to the implications for treatment of the Transactional Process Model (Spielberger & Vagg, 1995). A clinical psychologist working in conjunction with software developers, graphic designers, an animator, composer and narrator developed the original programme informed by the research pertaining to exam anxiety. The initial text was reviewed by clinical psychologists to ensure appropriateness and validity and the final interactive programme was reviewed by clinical psychologists and students to provide feedback. At each stage alterations were made based on the comments provided. The programme was evaluated by Orbach et al (2007) and found to be useful and effective for people of student age.

It was considered that the programme might contain some language and concepts that were inaccessible to younger people, particularly in the ‘Apply Rational Thinking’ section, which focused on cognitive restructuring techniques. The programme was reviewed by a number of young people aged 15-18 and they were asked to identify language and concepts they did not understand or sections they thought needed to be more interactive. Revisions were made in the light of their comments, in particular the concepts in the ‘Apply Rational Thinking’ and ‘study skills’ were simplified.

The programme runs on the Internet and can only be accessed with a password. Priority was given to making the programme interactive, interesting and easy to use, and this was achieved through use of animation, graphics, photographs, music and narration, but balance was achieved between appearance and processing requirements so that the programme could run at an acceptable speed. ‘Flash Player 5’ (www.macromedia.com) software was used to facilitate the animated and audio-visual components of the programme.
The Programme

The programme is made up of five modules, which will be explained in more detail:

6. Introduction
1. Learn to relax
2. Thinking skills
3. Master study and exam skills
4. Control your stress

Module 1 — Introduction

The introduction module guides users through the following information:

- ‘About exam anxiety’
  This section gives information about prevalence rates and the concept of facilitative versus inhibitive levels of anxiety.

- ‘The symptoms’
  This section provides information about the physiological, cognitive, emotional and behavioural symptoms of excessive exam anxiety. Users are invited to click on a figure representing each symptom group and tick the symptoms they experience.

- ‘The vicious cycle of anxiety’
  An explanation of how the physical, cognitive, emotional and behavioural symptoms interact and lead to an escalation in exam anxiety is presented. This is illustrated further by an example of one student preparing for an exam and another taking an exam.

- ‘The exam advantage programme’
  Users were told that researchers had been investigating treatments for exam anxiety for over 40 years and that this programme drew on a range of effective techniques that aimed to help people:
    1. Reduce anxiety
2. Feel more confident
3. Improve performance

They were informed this would involve learning thinking techniques to deal with exam-related negative thoughts and worries; hearing advice on study skills; being taught relaxation skills; and using relaxation and visualisation to help overcome the stressful symptoms of anxiety.

They were advised about the amount of time to use the programme for, the need to practice and apply what they learned to their own life, the importance of continuing despite setbacks and having realistic expectations regarding progress being in small steps.

*Module 2 – Learn to relax*

This module is composed of the following topics:

- **‘About relaxation’**
  This provided information about the adaptive reasons for anxiety responses (e.g. ‘fight or flight’) and introduced the concept of perceiving an exam as threatening and so stressful. This was followed by relaxation being presented as a way to, with practice, counter these responses.

- **‘Relaxation techniques’**
  This section taught breathing, progressive muscular and deep muscular relaxation based on the Jacobson method (1938). The techniques were explained and demonstrated. After this the users completed interactive exercises to practice the techniques, in the same way they would in a face-to-face therapy session. This section was originally prepared for another software package by Ultasis Plc and used with permission.
• ‘My relaxation strategies’
  This began with information on the importance of taking ownership of new learning. This was followed by a list of good and bad relaxation strategies including laughter, breathing and physical activity versus over eating, alcohol or drugs. They could click to find out more about each strategy and then were encouraged to write down good or bad methods they had used before.

• ‘My relaxation diary’
  This presented the user with a diary in which to note when they used relaxation strategies. It included the date, the situation, the stress level experienced, what strategy they used and its effect. The responses could be saved to review at a later time.

*Module 3 – Thinking skills*

This module focused on cognitive skills and included the following:

• ‘Introduction’
  This section presented one cause of exam anxiety being how we interpret events. Examples were given of unhelpful thought before and during an exam and were contrasted with examples of using thinking skills to manage these thoughts.

• ‘Learn to identify unhelpful thoughts’
  Users learned what unhelpful automatic thoughts and images are and about their adaptive function when in physical danger. They were told that with practice you can become aware of these thoughts and so make a rational decision as to whether it is helpful to accept them as true or not. They were presented with examples of helpful and unhelpful thoughts and then could do an exercise in which they were asked to classify various thoughts by dragging them to the appropriate column.

• ‘Learn to identify thinking errors’
The concept of our thoughts sometimes becoming distorted from the logical truth and the role this plays in escalating anxiety was presented. The importance of recognising and understanding these distortions was emphasised. Users were then introduced to common thinking errors such as black and white thinking, discounting the positive, catastrophic thinking and mind reading. Each thinking error was accompanied by an explanation and example and then participant could write down their own examples.

- ‘Challenge your negative thoughts’

The role of negative and distorted thinking in maintaining and escalating anxiety was explained. Users were then taught to challenge their thoughts through asking questions such as ‘What is the evidence for and against my thought?’ ‘What is the worst that can happen?’ or ‘What would my best friend say if they knew I was thinking in this way?’ An example of using these questions to challenge an upsetting thought was available.

- ‘My thought record’

This section contained a six-column thought record that users could fill in to practice the previously learned thought-challenging techniques. They were asked to record the situation, thoughts, feelings, evidence for the thought, evidence against the thought and a balanced thought. Directions on using the record could be obtained by clicking the ‘instructions’ button and the instructions advised starting by getting used to filling in the first three columns. They were warned that the task might feel artificial at first, but would become more natural with practice. An example was also available.

- ‘My coping card’

A coping card made up of positive statements such as ‘I will remain calm and will manage my anxiety’ and ‘I have done what I could to revise, now I just have to do what I can’ was presented. Users were able to personalise the card by editing the statements or adding their own ones. The card could be printed and users were advised they could use it before or during exams.
Module 4 – Master study and exam skills

At the end of each section in this module there is a space for users to write notes and record their progress with the suggested tasks. This module contained the following sections:

- ‘Introduction’
  The section explained why it is important to have good study techniques. It suggested using the module whilst studying for exams and emphasised the importance of practicing the techniques until they became routine.

- ‘Setting up a study plan’
  Users were advised to set up a detailed, written study plan based on the tasks that needed to be done and the time available. They were advised to allocate additional time to difficult topics and to schedule short study sessions with regular breaks. It was suggested they monitor their progress through the tasks.

- ‘How to study and revise’
  This section provided guidance on how to study effectively for exams such as, reviewing material soon after it has been taught; reviewing previous exam papers; summarising key questions and making notes as they read. It was also advised that user sought help early for topics they did not understand and possibly formed study groups with others.

- ‘Avoiding procrastination’
  This section advised users on how to avoid putting off work by methods such as reminding themselves of long-term goals or the negative consequences of not doing work. It also suggested thinking about how good they will feel after working and to plan rewards for doing things as planned rather than procrastinating. After each suggestion they were asked to rate their motivation.
• 'The study environment'
This section gave advice on how to make a good study environment. This includes things such as studying at a quiet, well lit table free from distractions; avoiding studying in bed; having relevant materials available but keeping the area free from irrelevant clutter.

• 'Maintaining a healthy lifestyle'
Users were advised to maintain a balanced lifestyle whilst studying and so to include time for relaxation and seeing friends. They were also advised to minimise caffeine and alcohol use; eat healthily; allow time for exercise and to stop work in time to ‘wind-down’ before trying to sleep.

• 'Before the exam'
This section presented a list of suggestions of what to do in the 24 hours before an exam. It included: allowing yourself time to change from ‘revision’ to ‘exam’ mode; making sure you have the necessary materials for the exam; not cramming the night before, instead trying to sleep; avoiding discussing the exam with others; practice relaxation techniques and use the coping card.

• 'During the exam'
This section provided guidelines on how to behave during the exam such as reading the exam questions a number of times and making notes, starting with the questions you are more confident with, planning your time and sticking to it, writing essay plans and not judging yourself against what others seem to be doing.

• 'Dealing with anxiety during the exam'
This section provided strategies in case the user became anxious during an exam. These included: stopping, closing your eyes and using a relaxation technique; using ‘thought-stopping’ techniques; positive self-talk; writing down intrusive thoughts; reminding yourself of the post-exam reward; or taking a break by having a drink or going to the toilet. These strategies could be printed if the user chose.
• ‘After the exam’
  This section provided suggestions on what to do after the exam. They included:
  rewarding yourself for the hard work, regardless of how the exam actually went;
  not going over the exam questions; considering which study techniques appeared
  to be effective; reviewing whether the anxiety management techniques were
  effective or whether they need to be practiced more.

Module 5 – Control your stress
This section took users through a systematic desensitisation / anxiety management
approach presented as an exam-anxiety ladder that is ‘climbed’ using imagery-based
exposure to imagine themselves coping in increasingly anxiety-provoking situations.
The module presented the following sections:

• ‘Introduction’
  This section began by guiding users through a visualisation exercise to
demonstrate the power of the imagination. The classically conditioned
relationship between exam stimuli and anxiety was explained and a visualisation
exercise used to explain the rationale for using imagery exposure to build new
associations between exam stimuli and calm feelings.

• ‘Build your own ladder’
  In this section users were presented with a ‘ladder’ showing the process of
preparing for, and sitting, an exam linking temporal proximity with increasingly
higher anxiety. Users were instructed to edit the ladder to create a personal
hierarchy of anxiety-provoking exam related situations. Next to each step on the
ladder there were related strategies they could use to manage their anxiety; again
they were advised to personalise these through editing, adding or deleting
strategies.
• ‘Climb the ladder’

In this section users selected a ‘step’ of their ladder to work on. They read the situation and the strategies for that step and were instructed to use their preferred relaxation strategy to become calm. Next they were instructed to imagine the situation as vividly as possible and to note their anxiety level. Then they were asked to imagine dealing with the situation, as they would want to in reality. They were reminded of the strategies they developed and asked to continue imagining themselves coping well with the situation and to feel calm, confident and in control, after which they again noted their anxiety levels and confidence about that situation. If they did not feel more confident they were advised to alter the description of the situation to make it more vivid if necessary and then repeat the step until they could imagine it vividly and imagine themselves coping and remaining calm. If they did feel confident they could then progress to the next step.

• ‘The last step’

The final screen reminded users of the effort they had put into the programme and the skills they had learned. They were encouraged to implement their strategies in exams and other challenging situations. The programme ended with a positive suggestion, which they could chose to hear in the first or second person: ‘From the moment you enter the exam hall you will be calm and focused; you will breath deeply and calmly; you will be confident and in control; you will manage your time well; you will succeed.’
Appendix III

Power Calculations
Sample Size for Intervention – Control Group Comparison:

Based on Orbach et al. (2007) post-hoc power calculations using gpower (Faul & Erdfelder, 1992) for Analysis of Variance showed:

Effect Size (f) = 0.3467  
Alpha = 0.05  
Power = 0.7373

Using this information to achieve Power = 0.80 and Alpha = 0.05 a sample size of 68 was required.

Sample Size for Mode of Administration Comparison (Structured – Unstructured)

Based on Proudfood et al. (2004) post-hoc power calculations using gpower (Faul & Erdfelder, 1992) for a one-tailed t-test showed:

Effect size (d) = 0.47  
Alpha = 0.05  
Power = 0.964

Using this information to achieve Power = 0.08 and Alpha = 0.05, a sample size of 114 was required.
Appendix IV

Recruitment Letter and Additional Information for Schools
Dear NAME,

I am currently researching an intervention to help with exam anxiety, as part of my doctorate qualification in Clinical Psychology at the University of Surrey. As I am sure you are aware exam anxiety is widespread problem that can make exams very stressful and lead to impaired exam performance, which can have a substantial impact on later life.

The intervention that I am researching uses a computer package to teach strategies to cope with anxiety about exams based on the principles of cognitive behaviour therapy. These include relaxation methods, study skills, stress management strategies and learning to think rationally about negative thoughts about exams. This package has been shown to be very effective in helping university students with exam anxiety and we now want to establish whether it is also helpful for G.C.S.E. and A-Level pupils.

I would like to invite pupils in your school who are over the age of 16 and feel anxious about exams to participate in this research. There is good evidence that those who participate will probably gain from it by feeling less anxious about forthcoming exams, which will hopefully provide pastoral benefit to your school. In return for some of your pupils participating, all G.C.S.E. and A-Level pupils would be able to have access to the computer package after the research has ended.

I have enclosed a leaflet detailing what participation in this research would entail for your school, and example pages from the exam anxiety programme. I would be very happy to discuss this proposal with you or a member of your senior management team and will telephone to see if you wish to pursue it.

Thank you for reading this. I hope you will be able to give it serious consideration, as I believe it will potentially benefit your school, and would be a considerable help to me.

Yours sincerely

Suzie Gratton
Clinical Psychologist in Training
What Participating in the Exam Anxiety Research Would Involve for Your School

The main commitments of the school if participating in this research would involve allowing the researcher to meet with participants at the beginning and end of the research, and providing an agreed time for a sub-set of the participants to use the computer package at school for 30 minutes once a week. This could be at lunchtime, during a study period, after school or other time you felt suitable and would require the use of computers with internet access. The research process is outlined below:

1. The researcher (Suzie Gratton) meets with year 11, 12 and 13 pupils to explain the research and offer those over 16 the chance to be involved. This could be done during assemblies or PSHE lessons or at another time you thought suitable and would need to be done in October or November 2006.

2. Those who were interested in participating would need to meet with the researcher to be enrolled into the research and complete a consent form. This would need to be done in November of December 2006.

3. In January 2007 all the participants would complete a set of questionnaires about exam anxiety which will take approximately 20 minutes. They will then be randomly divided into three groups.

   **Group 1**: Introduced to the computer package and instructed to use it at least once a week at home for approximately 8 weeks.

   **Group 2**: Introduced to the computer package and instructed to use it at a regular time for 30 minutes each week at school. This could be during lunchtime, a study period or after school as agreed with the school.

   **Group 3**: No access to the computer package at the present time.

4. At the end of March 2007 the research would need to meet with all the participants to complete another set of questionnaires. This should take approximately 20 minutes.

5. All participants will be entered into a draw to win a pair of cinema tickets.

6. All G.C.S.E. and A-Level pupils in the school would have access to the computer package from the end of March 2007 onwards.

7. At the end of June 2007 once exams have finished the research would contact a few participants by telephone to ask questions about how they felt before their recent exams compared to exams before the research, and to ask them to complete another questionnaire over the telephone.

8. The research would write to each participant and the school during July 2007 explaining the results of the research.
Background to the Research

This computer programme was developed by Dr Gili Orbach, Clinical Psychologist, who is supervising the current research project. It was developed at the Institute of Psychiatry in London and evaluated on a group of university students who reported suffering from exam anxiety. The evaluation showed this computer programme to be very effective at reducing exam anxiety. The study found that 63% of those who used the computer package showed statistically significant improvements in their exam anxiety and 53% moved from experiencing problematic exam anxiety to experiencing only normal healthy levels of exam anxiety. Thus this computer programme has been shown to be at least as effective as face-to-face treatment for exam anxiety with a psychologist.

In the light of these results we now want to investigate whether this computer programme is useful to other groups of students, such as those taking G.C.S.E.s and A-Level.

The previous research is published in:

If you would like more information about the research already done on this treatment for exam anxiety please speak to Suzie Gratton, or she can give you a copy of the research paper. The study you are being asked to take part in is based on this study and follows a similar method.

Aims of the Research

• To establish whether the computer programme to treat exam anxiety is effective at reducing exam anxiety in G.C.S.E. and A-Level students.

• To establish whether the computer programme is more effective if the pupils are able to use it whenever they want at home or better used in a more structured manner during a set time at school each week.

These aims will be achieved through comparing data collected from three groups of pupils. Groups 1 and 2 will have access to the computer programme during the initial phase of the research and their data will be compared to those in Group 3 who will not have access to the computer programme during the initial phase of the research. This will allow us to establish whether the programme is useful in reducing exam anxiety when compared to people who do not receive any treatment. Group 3 will be able to use the computer package after the research has ended which will allow them to experience the possible benefits of the package before their exams.

The data from Group 1 will compared to that from Group 2 to establish whether it is better for the programme to be administered in a structured manner or to allow unstructured access.
Appendix V

Ethical Approval Letter
05 October 2006

Suzannah Gratton  
Dept of Clinical Psychology  
School of Human Sciences

Dear Ms Gratton

Evaluation of an internet-based computerised intervention for exam anxiety  
(EC/2006/71/PSYCH)

On behalf of the Ethics Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the submitted protocol and supporting documentation.

Date of confirmation of ethical opinion: 6 October 2006

The final list of documents reviewed by the Committee is as follows:

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<thead>
<tr>
<th>Document</th>
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<tbody>
<tr>
<td>Application</td>
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<td>Insurance proforma</td>
<td>18/07/06</td>
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<tr>
<td>Project summary</td>
<td>18/07/06</td>
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<tr>
<td>Information for participants part 1</td>
<td>19/07/06</td>
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<tr>
<td>Information for participants part 2</td>
<td>18/07/06</td>
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<tr>
<td>Consent form</td>
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<tr>
<td>Questionnaire</td>
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<td>Information for schools</td>
<td>18/07/06</td>
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<tr>
<td>Your response to the Committee’s comments</td>
<td>11/03/06</td>
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<td>Your second response to the Committee’s comments</td>
<td>27/03/06</td>
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This opinion is given on the understanding that you will comply with the University's Ethical Guidelines for Teaching and Research.

The Committee should be notified of any amendments to the protocol, any adverse reactions suffered by research participants, and if the study is terminated earlier than expected with reasons.

You are asked to note that a further submission to the Ethics Committee will be required in the event that the study is not completed within five years of the above date.

Please inform me when the research has been completed.

Yours sincerely

Catherine Ashbee (Mrs)  
Secretary, University Ethics Committee  
Registry

cc: Professor T Dasombe, Chairman, Ethics Committee  
Dr Sue Thorpe, Department of Psychology
Appendix VI

Information and Consent Forms
Do I have to take part in the research?
No, it is your choice. Choosing not to participate will not have any effect on your school life. If you decide to participate and then change your mind that is okay, you can choose not to participate at any time and do not have to give a reason for changing your mind.

What happens next if I decide to take part?
If you decide to take part then you will be given this information sheet to keep and be asked to sign a consent form. I will then contact you to arrange a time to begin the process.

This is the end of Part 1 of the Information Sheet. If you are thinking about taking part in the research, please read the additional information in Part 2 before making your decision.

If you have any questions or would like more information about this research please contact:

Suzie Gratton, Trainee Clinical Psychologist
pmsesg@surrey.ac.uk
Telephone: 07929152952

Supervised by: Dr Gili Orbach, Clinical Psychologist, Southwest London and St George's NHS Trust

Dr Sue Thorpe, University of Surrey
Telephone: 01483 689441

Evaluating a computer-based package to help with exam anxiety

Information for participants

You are being asked to take part in a research study. Before you decide it is important that you understand why the research is being done and what it will mean for you. Please read this leaflet and talk about it with other people if you want to.

Part 1 tells you about the study and what will happen if you take part
Part 2 gives more detailed information about the study

Please contact Suzie Gratton if there is anything you do not understand or if you would like more information. Take time to decide whether or not you wish to take part

Thank you for reading this.
Who is carrying out the research?
Suzie Gratton, is a trainee clinical psychologist at the University of Surrey. She is undertaking this research as part of my doctorate qualification in psychology.

What are we doing?
A computer package to help with exam anxiety has been designed using cognitive-behaviour-therapy. This involves using an Internet based computer programme for approximately 30 minutes per week for 5-8 weeks to complete a set of exercises. We know this programme is helpful for university students and now want to know whether it is good at reducing anxiety about exams in GCSE and A-Level pupils.

Why you?
The head teacher of your school has given permission for this research to take place in the school. You have said you get worried about exams and might be interested in being involved with this research. You have also said you have access to a computer and the Internet at home. 150 people will be taking part in this study.

How will we do this?
In January 2007 the participants will be divided into two groups. Deciding who goes into which group will be random. Everyone will then complete questionnaires. One group will have the computer programme explained to them and start using it. Over eight weeks half of this group will use it at any time they like, the other half will have a set time to complete it at school. These groups will be decided randomly. The second group will not be able to use the programme during this time. After eight weeks everyone will complete the questionnaires again. This allows us to work out whether the computer programme is helpful for exam anxiety by comparing the results from each group.

After this the second group will have the computer programme explained to them and everyone will be able to use it whenever they like up to their exams in summer 2007.

After their exams some people will be contacted by telephone and asked about how they felt during their exams.

It is important that you understand that everyone will be able to use the computer package to help with exam anxiety, but half of those taking part will have to wait for approximately eight weeks from the start of the research to use it.

What will I have to do?
You will have to complete questionnaires at the beginning and end of the research. If you are in the group that uses the programme first you will have to use it each week, and if you are in the group that has a set time at school to use it, then you will have to use it during this time. You may also be contacted after your exams in June and be asked about how you felt about them.

Are there any risks or side effects?
It is not thought that there are any risks or side effects with this computer package.

What are the possible benefits to this computer package?
We cannot promise this study will help you, but it may help you feel less worried about exams and the information we collect might help other people who get worried about exams.

What will my taking part in the study be confidential?
Yes. All information about you taking part in the study will be kept confidential. The details are included in Part 2.
Evaluating a computer-based package to help with exam anxiety

Information for participants

Part 2

If you have any questions or would like more information about this research please contact:

Suzie Gratton, Trainee Clinical Psychologist  
psmesq@surrey.ac.uk  
Telephone: 07929152952

Supervised by: Dr Gili Orbach, Clinical Psychologist, Southwest London and St George’s NHS Trust

Dr Sue Thorpe, University of Surrey  
Telephone: 01483 689441

If the information in Part 1 has interested you and you are thinking about taking part, please read the information in this leaflet before making your decision.

Please contact Suzie Gratton if there is anything you do not understand or if you would like more information. Take time to decide whether or not you wish to take part.

Thank you for reading this.
What if new information becomes available?
Sometimes during a research project, new information becomes available about the computer package. If this happens Suzie Gratton will tell you about it and discuss whether you want to continue in the study. If you decide to continue in the study you will be asked to sign a new consent form. If the study is stopped for any reason, you will be told why and given advice about other ways of getting help with your worries about exams.

What will happen if I don't want to carry on with the study?
As has already been explained, you can withdraw from the study at any time. If you decide to withdraw from the study we will use the data collected up to that time.

What if there's a problem?
If you have a concern about any aspect of this study, you should as to speak with the Suzie Gratton, who will do her best to answer your questions (07929152952). If you remain unhappy and wish to complain formally, you can do this through the University of Surrey Complaints Procedure. Details can be obtained from the university.

Harm
In the event that something does go wrong and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence than you may have grounds for a legal action for compensation against the University of Surrey but you may have to pay your legal costs.

Will my taking part in this study be kept confidential?
The data will be collected on paper forms and then transferred to a password protected computer. All information on the computer will be coded so that you cannot be identified. Only Suzie Gratton and her supervisors will be able to see the data and it will only be used for this study. The data will be kept for 10 years and then disposed of securely.

What will happen to the results of the research?
The results will be written up and submitted for Suzie Gratton's doctorate in clinical psychology, they will also be written up to be published in an academic journal. After the research has finished you will be sent a letter explaining the results of the research. In any documents that are written neither you nor your school will be able to be identified.

Who is organising the research?
The research is being organised by Suzie Gratton as part of her doctorate qualification in Clinical Psychology at the University of Surrey.

Who has reviewed the study?
This study has been reviewed by the University of Surrey Research Ethics Committee.

What happens next?
If you decide to take part in this study you will be asked to sign a consent form. You will be given a copy of the information sheets and a signed copy of the consent form to keep.

Thank you for taking the time to read this
Consent Form

Project Title: Evaluating a computer-based package to treat exam anxiety

Name of Researcher: Suzannah Gratton

1. I confirm that I have read and understand the information sheet dated September 2006 (Version 3) for the above study. I have had the opportunity to think about the information, ask question and had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw from the study at any time without having to explain my decision. There will be no consequences to withdrawing from the study.

Name of Participant Signature Date

Name of person taking consent Signature Date

Suzannah Gratton Researcher Signature Date
Appendix VII

Test Anxiety Inventory
DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

1. I feel confident and relaxed while taking tests.

2. While taking examinations I have an uneasy, upset feeling.

3. Thinking about my grade in a course interferes with my work on tests.

4. I freeze up on important exams.

5. During exams I find myself thinking about whether I'll ever get through school.

6. The harder I work at taking a test, the more confused I get.

7. Thoughts of doing poorly interfere with my concentration on tests.

8. I feel very jittery when taking an important test.

9. Even when I'm well prepared for a test, I feel very nervous about it.

10. I start feeling very uneasy just before getting a test paper back.

11. During tests I feel very tense.

12. I wish examinations did not bother me so much.

13. During important tests I am so tense that my stomach gets upset.

14. I seem to defeat myself while working on important tests.

15. I feel very panicky when I take an important test.

16. I worry a great deal before taking an important examination.

17. During tests I find myself thinking about the consequences of failing.

18. I feel my heart beating very fast during important tests.

19. After an exam is over I try to stop worrying about it, but I just can't.

20. During examinations I get so nervous that I forget facts I really know.
Appendix VIII

GP-CORE
IMPORTANT - PLEASE READ THIS FIRST
This form has 14 statements about how you have been OVER THE LAST WEEK. Please read each statement and think how often you felt that way last week. Then tick the box which is closest to this.

*Please use a dark pen (not pencil) and tick clearly within the boxes.*

**Student ID Number**  
**Age**  
**Male** [ ]  
**Female** [ ]

---

**Over the last week**

<table>
<thead>
<tr>
<th>Statement</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I have felt tense, anxious or nervous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 I have felt I have someone to turn to for support when needed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 I have felt O.K. about myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 I have felt able to cope when things go wrong</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 I have been troubled by aches, pains or other physical problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 I have been happy with the things I have done.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 I have had difficulty getting to sleep or staying asleep</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 I have felt warmth or affection for someone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 I have been able to do most things I needed to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 I have felt criticised by other people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 I have felt unhappy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 I have been irritable when with other people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 I have felt optimistic about my future</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 I have achieved the things I wanted to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

THANK YOU FOR YOUR TIME IN COMPLETING THIS QUESTIONNAIRE
Appendix IX

Demographics Questionnaire
Registration Information

Name: .................................................................
Date of Birth: .........................................................
Sex: Male □    Female □
Phone number: ..........................................................
Email address: ........................................................

Is English your main language?    Yes □    No □

For how many years have you suffered anxiety about exams? .......

Have you previously failed an exam?    Yes □    No □
Have you ever become ill due to exams? Yes □    No □

Have you taken medication to help with exams? Yes □    No □

Have you been for psychological / counselling help due to exam stress? 
    Yes □    No □

Have you ever been for psychological / counselling help for anything other than exam stress? 
    Yes □    No □

Have you previously used the internet to seek help for exam stress? 
    Yes □    No □

Please answer the question in the section relating to the year you are currently in.

Year 11
G.C.S.E. Mocks

Number of subjects taken: .................

Number of  
A* grades: .......  D grades: .......
A grades: ........  E grades: .......
B grades: ........  F grades: .......
C grades: ........  G grades: ........
### Year 12

**G.C.S.E. Results**

<table>
<thead>
<tr>
<th>Number of</th>
<th>A* grades:</th>
<th>A grades:</th>
<th>B grades:</th>
<th>C grades:</th>
<th>D grades:</th>
<th>E grades:</th>
<th>F grades:</th>
<th>G grades:</th>
</tr>
</thead>
</table>

**Year 13**

**G.C.S.E. Results**

<table>
<thead>
<tr>
<th>Number of</th>
<th>A* grades:</th>
<th>A grades:</th>
<th>B grades:</th>
<th>C grades:</th>
<th>D grades:</th>
<th>E grades:</th>
<th>F grades:</th>
<th>G grades:</th>
</tr>
</thead>
</table>

**AS Results**

<table>
<thead>
<tr>
<th>Number of</th>
<th>A grades:</th>
<th>B grades:</th>
<th>C grades:</th>
<th>D grades:</th>
<th>E grades:</th>
<th>N grades:</th>
<th>U grades:</th>
</tr>
</thead>
</table>
Appendix X

Qualitative Post-Intervention Questionnaire
Qualitative post-intervention questionnaire (Structured time)

1. Did you find the programme useful?
2. What was useful about the programme?
3. What was not so useful about the programme?
4. What was the most helpful section of the programme?
5. What was the least helpful section of the programme?
6. Do you feel you have learned any useful strategies to cope with exams?
7. If yes, what have you learned?
8. Do you feel more / less anxious about your exams?
9. Do you fell more / less confident about your ability to control you anxiety before and during the exam?
10. Do you feel more / less confident in succeeding in your exams?
11. Did you think that using a computer to deliver the treatment was an advantage or disadvantage? In what way?
12. Do you think it would have been more helpful if the material were delivered face-to-face?
13. Did you find it helpful to have a fixed schedule of when to use the programme?
14. Would you have found it more helpful to be able to use the programme whenever you wanted?
15. Would it be better to start using the programme a few months before the exam or shortly (ie a few weeks) before the exam?
16. Will you use the programme again?
17. If yes, which sections will you use?
18. Are their any ways in which the programme could be improved?
19. Any other comments?
Qualitative post-intervention questionnaire (Unstructured time)

1. Did you find the programme useful?
2. What was useful about the programme?
3. What was not so useful about the programme?
4. What was the most helpful section of the programme?
5. What was the least helpful section of the programme?
6. Do you feel you have learned any useful strategies to cope with exams?
7. If yes, what have you learned?
8. Do you feel more / less anxious about your exams?
9. Do you feel more / less confident about your ability to control you anxiety before and during the exam?
10. Do you feel more / less confident in succeeding in your exams?
11. Did you think that using a computer to deliver the treatment was an advantage or disadvantage? In what way?
12. Do you think it would have been more helpful if the material were delivered face-to-face?
13. Did you find it helpful to be able to access the programme whenever you wanted?
14. Would you have found it more helpful to have a fixed schedule to use the programme?
15. Would it be better to start using the programme a few months before the exam or shortly (ie a few weeks) before the exam?
16. Will you use the programme again?
17. If yes, which sections will you use?
18. Are there any ways in which the programme could be improved?
19. Any other comments?
Appendix XI

Follow-up Questionnaire
Follow-up Telephone Interview

Identification code: ......................

How did you feel –

<table>
<thead>
<tr>
<th></th>
<th>Not anxious</th>
<th>A bit anxious</th>
<th>Moderately anxious</th>
<th>Extremely anxious</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the few weeks before the exam?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Just before the exam?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>During the exam?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After the exam?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Was this different to how you felt in previous exams? .................................

STAIs: How did you feel during a recent exam?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt calm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt tense</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I was relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt content</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I was worried</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

STAIs: How did you feel during a previous exam (before using the programme)?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt calm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt tense</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I was relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt content</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I was worried</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Did you use the programme?

Did the programme help you to cope?

How?

To what extent do you feel there was an improvement in your exam performance?