DClinPsy Portfolio

Volume 1 of 2

A portfolio submitted in partial fulfilment of the requirements of the University of Hertfordshire for the degree of DClinPsy

Including a Thesis entitled:

A COMPARISON OF PARANOID IDEATION IN CLIENTS WITH PSYCHOSIS OR ANXIETY DISORDERS DURING AN INTERACTIVE VIDEO TASK

Gustavo Camino Ordóñez

July 2008

INDEX

University of Hertfordshire

Discuss the importance of the therapeutic relationship across the life-span, but with particular reference to working with adults and older adults

Written Exercise 1. Cohort 5

Gustavo Camino
Student number: 05108129
August 2006
Word Count: 4834

INTRODUCTION

In examining the therapeutic relationship (TR) Strupp acknowledges four interpersonal attitudes that characterise the TR; '*respect, interest, understanding and maturity*' (Strupp, 1976; cited in Sweet, 1984, p.8). Following on from this starting point Clarkson gives a more detailed description by distinguishing the TR from other forms of relationships: (1) there is a contractual agreement, (2) one of the parties has been trained to take part in the TR, (3) there is a commitment from the therapist to the welfare of the client, and (4) the goal is the amelioration of a psychological difficulty (Clarkson, 2003). Clarkson also explains that every therapeutic task that is chosen in a session allows certain forms of TR to emerge. These forms of interaction may be more apparent in different moments of the therapy because they are not 'operative' at the same time (Clarkson, 2003). These are as follows: therapeutic alliance, transference, countertransference, reparative relationship, person to person relationship and the transpersonal relationship. Consequently, there are certain constructs (e.g. therapeutic alliance) that have received more attention and study than others. This essay would like to focus here on the TR as a whole and also in concepts such as the therapeutic alliance (TA) because they have been historically more relevant and have generated more empirical support.

The TR has increasingly been the subject of study and consideration in psychotherapy research in recent years (Norcross, 2002). Its importance is discussed not only on theoretical grounds but also in outcome studies (Norcross, 2002; Roth & Fonagy, 2005). However, theory and practice in psychotherapy are not the product of a unitary corpus. Consequently, the TR has been constructed across psychotherapy orientations and every orientation has given the TR a different status. Certain theoretical orientations consider that the TR predicts therapy outcome whereas for others it is a secondary aspect of therapy. For instance, in psychoanalysis, the TR is seen as a critical concept, whereas from a

behavioural perspective the more technical aspects of the therapy are considered primary for therapeutic change (Dattilio, Freeman & Blue, 2000). The presence of TR concepts across different therapeutic modalities take different forms, for instance, cognitive therapy is very structured and works with very few operational concepts (e.g. the therapeutic alliance) whereas in psychodynamic therapies there is more diversity of TR concepts (i.e. countertransference, transference, resistance, impasse, etc) although they are more difficult to explain or define (Norcross, 2002). But is the presence of TR concepts across therapy models an indication that they are a requisite for all forms of therapy? To answer this question this essay will explore the importance of the concept of TR historically across therapeutic orientations, and whether TR could inform the clinical practice will be also discussed in the light of current evidence.

A second aim of the essay is to examine the importance of the TR across the life-span. This essay will discuss the life-span in terms of age groups that are typically differentiated in UK health services: children, adults and older adults. Specific aspects of the TR in adults and older adults will be also analysed.

After presenting these ideas, implications for current clinical practice will be drawn in relation to the role of the TR. Current National Health Service (NHS) practice guidelines in the UK will be considered with the findings presented. Finally, it is hoped that the discussion will help to achieve some conclusions and insights into how relevant the TR should be for a practitioner working in the NHS, and for training and development.

HISTORICAL ASPECTS OF THE THERAPEUTIC RELATIONSHIP

Psychoanalysis

The TR was formally identified as an aspect of psychotherapeutic work when Freud expressed that it was essential for the therapy work to form a relationship between the therapist and the patient (Horvath, 2004). Freud suggested that the TR would help to re-enact conflicts that happened early in the life of the patient and therefore create the appropriate environment to make possible the resolution of those conflicts and then facilitate the re-establishment of the patient's mental health (Waterhouse & Strupp, 1984).

According to Freud there are underlying principles that govern the process of the TR (Waterhouse & Strupp, 1984). They are the transference, the counter-transference and the resistance. The transference is the more important principle and consists of those wishes, affects and attitudes that the patient experienced towards parental figures that are activated and orientated towards the person of the therapist. The therapist can make use of the process of transference to learn about the interpersonal style of the patient. In that way, Freud's conceptualization of the transference would indicate that the TR starts when the patient tries to emulate a parent-child relationship with the therapist and finishes when the patient manages to establish a more mature and balanced interaction with the therapist (Waterhouse & Strupp, 1984). In other words, the TR would be initially a reflection of the patient's past relationships.

Humanistic Psychology

The humanistic approach has also made a contribution to the conceptualization of the TR. If Freud is the most representative author in psychoanalysis, Rogers

has that role for the humanistic movement (Dattilio, Freeman & Blue, 2000). Rogers developed a different therapeutic approach from psychoanalysis called the Person-Centered Approach. As the main focus of Rogers' therapy was the client and not the client's problem, the role of the TR in therapy was considered central for Rogers (Dattilio, Freeman & Blue, 2000). Rogers pointed out that the client could only change as a consequence of the TR. He hypothesised that there are specific therapist variables that can make the TR effective: therapists' congruence, unconditional positive regard and empathic understanding. These are known as 'facilitative conditions' (Lambert & Barley, 2002). Rogers predicted that these conditions were sufficient for client change (Rogers, 1965).

Behaviourism

Although traditional psychotherapies (psychoanalysis and humanistic) became gradually sensitive to evidence-based practice, the important step of developing empirically validated psychological interventions was first made by the behaviourists (Horvath, 2005). However, behaviourists were more interested in technical aspects of the psychological intervention than in the interpersonal aspects of the TR. This is not surprising because behaviourism developed as a reaction to traditional psychotherapy approaches (Sweet, 1984). At the core of these traditional approaches is the TR. In psychoanalysis the TR is a fundamental condition for patient's improvement and for humanistic therapies such as the Rogerian approach the TR is the main factor that produces patient's change (Sweet, 1984).

Cognitive Behavioural Therapy

Cognitive Behavioural Therapy (CBT) is an extensively tested psychotherapy, very oriented to evidence-based practise. Aaron Beck has been considered the

founder of the cognitive movement (Beck, 1995). By the mid-1980´s it could be said that it achieved the status of a psychotherapy model (Beck, 1995). Traditionally, CBT did not give great importance to the TR (Safran & Muran, 2000) but, nonetheless, the concept has achieved recognition among its followers and the need of a collaborative relationship and a robust therapeutic alliance has been included among its principles (Beck, 1995). In that way '*the therapeutic relationship may therefore be used as a process facilitator*' (Dattilio, Freeman & Blue, 2000, p.238).

THE RELEVANCE OF THE THERAPEUTIC RELATIONSHIP ACROSS THE LIFE-SPAN

For historical reasons the study of the TR has mainly been carried out involving adult populations (Norcross, 2002). For that reason, this client group will be discussed first and, logically the biggest proportion of this section will contain knowledge relevant to adults.

Adults

Psychoanalytical ideas were seminal in the development of the concept of TR. However, those ideas did not specify to what extent the TR is responsible for patients change, nor how much change is due just to the psychoanalytical technique (Sweet, 1984). Additionally, Freud and his followers did not promote the use of empirical studies to contrast his theory with clinical evidence. The consequence was that although the idea of transference has been very influential, changes had to be made to make it more operational. More recent advances in the construction of the TR within the psychoanalytical approach,

suggested that a more realistic and collaborative tone between patient and therapist interaction had to be promoted (Waterhouse & Strupp, 1984). There must be a mutual agreement between patient and therapist to work as allies. It is also necessary for the patient to realise that it is the more rational part of his personality that establishes that alliance. He should also make the effort to understand the irrational aspects of his life (Waterhouse & Strupp, 1984). This reality-oriented agreement helped to develop the notion of therapeutic alliance (TA) (Greenson, 1971; cited in Safran & Muran, 2000). Such innovation permitted greater technical flexibility. Zetzel (1956) was the first author who suggested that the therapeutic alliance is a key factor in the effectiveness of the psychotherapeutic intervention promoted (Zetzel, 1956; cited in Waterhouse & Strupp, 1984). Other authors like Greenson (1971) emphasised the idea that the TA gives an important role to rationality and objectivity in therapy (Greenson, 1971; cited in Safran & Muran, 2000).

The contribution of empirical research in psychoanalysis regarding the TR emerged indirectly. For example, the Menninger project was a longitudinal study of psychoanalysis and psychotherapy that did not isolate TR or TA variables, but the authors were interested retrospectively in the consistency in which those cases that showed positive outcome had a positive TR (Waterhouse & Strupp, 1984). A more specific effort made by Luborsky and colleagues (1972, 1976) showed that the TR was the best predictor of therapeutic change (Luborsky 1976; Auerbach, Luborsky & Johnson 1972; cited in Waterhouse & Strupp, 1984). A critical finding of these studies indicated that patients developed positive expectations about the therapy in the early stages of the treatment. This finding stimulated the Vanderbilt Project and the design of the Vanderbilt Therapeutic Alliance Scale (Hartley & Strupp, 1982). The scale was devised to explore whether a good TA in the initial stage of time-limited psychodynamic therapy could predict successful outcome. But the results of the study showed that there were no significant differences between patients that developed good or bad TA at the beginning of treatment and their therapeutic outcome. Additionally, the

results of the Vanderbilt Project also indicated that the TA could be the function of patient and therapist variables (Waterhouse & Strupp, 1984).

The concept of TR reached other therapeutic traditions where it received central importance. For instance, Rogers claimed that his 'facilitative conditions' are the precursors of a good outcome (Safran & Muran, 2000). More specifically, Rogers postulated that if certain therapist variables are not present, there will not be any therapeutic change. But according to Rogers these therapist variables are not the product of a technical knowledge (Rogers, 1965). Interestingly they are one of the more studied TR factors (Lamber & Barley, 2002). A meta-analytical study analysing empathy found that overall '*it accounts for as much and probably more outcome variance than does specific intervention*' (Bohart, Elliott, Greenberg & Watson, 2002, p.96). With regards to positive regard, the most recent review by Orlinsky & colleagues (1994) shows that from 76 studies patients ratings indicated that a relationship between positive regard and outcome was present in 65% of the studies (Orlinsky, Grawe, & Parks, 1994; cited in Farber & Lane, 2002). However, although the concept of congruence is theoretically supported, a review by Klein and colleagues (2002) indicated that evidence showing congruence influencing outcome is still mixed (Klein, Kolden, Michels & Chisholm-Stockard, 2002).

Behaviourists became to be attracted by the idea of studying the TR as they felt it may be connected to client motivation (Goldstein, 1973 cited in Sweet, 1984) and therapists skills (Goldfried & Davison, 1976 cited in Sweet, 1984). In fact, in the 1970´s a number of papers started to shed some light on the importance of the therapeutic relationship in treatment outcome (Keitjers, Schaap & Hoogduin, 2000). Previously, behavioural therapists had ignored the value of the TR (Eysenck, 1960; cited in Sweet, 1984), but more recently a growing empirical evidence has indicated that such an aspect of the therapeutic intervention could help patients to improve (Frank, 1982; Mitchell, Bozarth & Krauft, 1977; Wilson & Evans, 1977; op.cit in Keitjers, Schaap & Hoogduin, 2000). However, Sloane and

colleagues (1975) showed in a comparative study between psychotherapy and behaviourist approaches that TR variables were not related to positive outcome (Sloane et al, 1975; cited in Sweet, 1984). The study was replicated by Cross and colleagues a few years later (Cross, Sheehan & Kahn, 1982; cited in Sweet, 1984). Furthermore, other studies found that the therapist´s skills explained more variance than the TR itself in terms of treatment outcome (Cautela & Upper, 1978; cited in Sweet, 1984; Ford, 1978).

Nonetheless, more recent studies where meta-analyses of psychotherapy outcome literature are included indicate that the variance of the TR is bigger than the one of the techniques (Bleutler, 1989; Wampold, 2001; cited in Norcross, 2002). Furthermore, a meta-analytical study looking at the relation between outcome and TA indicated that the relation is consistent although moderate, but not influenced by variables like type of treatment or type of outcome (Martin, Garske & Davis, 2000; cited in Horvath & Bedi, 2002). Such evidence has important implications for the clinical practice when it is also known that the main psychotherapeutic modalities are comparable in outcome studies (Fonagy, Roth & Higgitt, 2005; Drisko, 2004). In fact, as a consequence of these recent developments, it has been suggested that common factors including TR variables may have a prominent role in therapeutic outcome (Drisko, 2004).

These findings have benefited the growing acceptance by a number of therapeutic traditions of the importance of the TA (Safran & Muran, 2000). It has been suggested that such recognition can be attributed, at least in part, to its centrality in the psychotherapy research community (Horvath & Luborsky, 1993; cited in Safran & Muran, 2000). The validity of the TA as a central concept has been manifested in meta-analytical studies (Horvath & Simonds, 1991; cited in Safran & Muran, 2000; Martin, Garske & Davis, 2000; cited in Horvath & Bedi, 2002).

Luborsky (1976) and Bordin (1979) were the first authors to offer a transtheoretical reformulation of the concept of TA, that is, a concept that can be examined from several theoretical perspectives (cited in Safran & Muran, 2000). Bordin suggested that the TA is the main source of change irrespective of the type of therapy used. Bordin identified three aspects of the TA: tasks, goals, and the bond. According to him, '*the strength of the alliance is dependent on the degree of agreement between patient and therapist about the tasks and goals of therapy, and on the quality of the relational bond between them*' (Safran & Muran, 2000, p.11).

Distinctive Relational Aspects of the Adult Cohort

Several authors have identified a number of distinctive aspects in dealing with the TA that may be the object of specific attention within the adult cohort. For instance, with regard to the tasks one of these seems to be the content of thoughts. A number of studies (e.g. Clark & Steer, 1996; cited in Solomon & Haaga, 2004) have identified thought specificity for anxiety and depressive disorders. Typical thoughts can be related to personal loss and failure (depression) and to harm and danger (anxiety). From a CBT perspective, one of the tasks that can be negotiated with the patient is to work on identifying those thoughts and to challenge them. Using a more dynamic approach, these thoughts can be useful to tap into painful feelings (Safran & Muran, 2000). With regard to the goals, the general objective of treatment can be negotiated with an active and collaborative participation with the adult, as opposed to children, who in my view, may not fully understand the purpose of treatment or able to articulate their views on it.

Older Adults

From the psychodynamic perspective it has been suggested that if human development is a lifelong process, then psychotherapy has to be designed to foster psychosocial development at any age. The importance of the TA in the context of older adults is therefore highlighted from the dynamic perspective (Kivnick, Kavka, 2002).

As CBT was originally developed with young and adult populations, it has been suggested that the older adult population requires adaptation of the TA (Secker, Kazantzis & Pachana, 2004). Furthermore, in older adults it is still not well understood why CBT can be efficacious. It has been argued that TA factors can be as important as the techniques in relation to outcome (Hyer, Kramer, Sohnle, 2004), but there appears to be a lack of systematic research examining this relationship. However, in the next section the contribution of a number of geropsychologists will help to clarify several aspects of the TA in older adults.

Distinctive Relational Aspects of the Older Adult Cohort

An old person faces new challenges on retirement: increase in leisure time, potential long life expectancy, bereavement, social isolation, budgetary problems and a predisposition to suffer from chronic illnesses. An understanding of these factors implies the acceptance that old people are a heterogeneous group where we can find individuals that find ageing a challenge, whereas others enjoy life as much as they did previously (Laidlaw, Thompson, Dick-Siskin, & Gallagher-Thompson, 2003). A generational difference between the therapist and the patient can be another issue to consider. The age gap between the therapist and the older adult can be quite significant.

As a consequence of the previous aspects of old age it is now obvious that there are many aspects that differentiate older adults from younger ones. But, what has to be taken into account in the TR when working with this client group?

Ageism is deeply ingrained in society and is inevitably represented in both therapist and patient as a series of negative stereotypes and unconscious reactions (Butler, 1975: cited in Hepple, 2004). 'The older adult cannot learn anything new', is a commonly expressed prejudice. In terms of tasks, Laidlaw et al. (2003) state that the use of thought diaries can be a very appropriate way of disproving such an assumption (Laidlaw et al, 2003). When the concept of *'old adult'* is construed on the basis of psychological and medical models where ageing and decline are the two main factors (Hepple, 2004), it would be logical to think that TR and therapy outcome with older adults would be poor. This does not have to be the case. Regarding client´s fears, it is important to notice that this cohort may come to therapy with a client-therapist model in mind that does not include collaboration. Older people may grant considerable status to the therapist and, as a consequence, a significant power imbalance may impede two way communication. Therefore, it is appropriate to offer an alternative model. We may also find that older adults may think that the therapist will have more regard for them if, for example, they do not reveal literacy difficulties or physical problems that may create rejection. In these situations it is recommended the use of feedback and to discuss openly trust and risk (Laidlaw et al., 2003).

Following the previous discussions in the adult section, it seems as though the therapeutic goals with older adults should not be different, although it may be appropriate to mention certain tendencies that may mislead the establishment of appropriate goals. Therapists may believe that old age is exclusively a time of loss and bereavement. At the same time there is evidence that shows that old age is associated with depression (Laidlaw, et al, 2003). It seems common to have lost relatives and to have suffered many restrictions at that stage. 'How can I help somebody that has so many problems?' it is possible to invoke the

cognitive causality of the mental health problem to avoid falling into blaming the circumstances of the older person. In other words, psychological problems can be related to dysfunctional beliefs more than a simple reaction to adverse circumstances Laidlaw et al. (2003).

Children

A meta-analytic study that considered associations between TR variables and outcomes in child and adolescent therapy found that the strength of the relationship was similar to the ones found in adults, hence modest. However, the TR was moderated by the type of patient problem, but not by the type of treatment (Shirk & Karver, 2003). Another meta-analysis that studied the relationship between TR variables and outcomes in the context of youth treatments showed correlations that ranged from moderate to strong (Karver, Handelsman, Fields & Bickman, 2006). The best predictors were therapist variables (Karver, et. al, 2006).

IMPLICATIONS FOR CLINICAL PRACTICE

The concepts, research and evidence discussed through this essay seem to lead to a clinically relevant inference: The TR and more specifically the TA should be considered important aspects of the clinical practice. This should occur regardless of the therapeutic modality that the practitioner adopts. The evidence also suggests that the TR is a promising source of research in psychotherapy.

The idea that the TR is an important factor in facilitating psychological improvement in therapy has been historically the source of hot debate (Sweet, 1984), and there has been an increasing interest in all forms of psychotherapy (Safran & Muran, 2000). In support of the TR research it has been shown that it

is one of the factors that makes considerable contribution to the outcome of psychotherapy (Frank, 1979; Hynan, 1981; cited in Clarkson, 2003). Conversely, several studies have found equivalent effectiveness between therapeutic techniques (see Lambert & Barley, 2002). The TR variables also correlate comparatively more with positive outcome than with therapeutic orientation. Interestingly, there is wide interest in evidence-based practice in psychotherapy, but most of the initiatives to identify empirically supported facts are related to treatment, and not to what is called; 'non specific factors' or the TR (Norcross, 2002). In fact, whereas the product of intensive research into the contribution of the TR to psychotherapy outcomes shows that it has a substantial role, books, guidelines and articles do not explicitly address this issue. Yet, the main effort is still dedicated to studying 'manualised treatments'. However, UK government documents indicate that common factors in therapy have to be addressed (Department of Health, 2001). However, this document has been interpreted as showing '*no evidence-based guidance is offered on which therapist behaviour contribute to or cultivate that relationship*' (Norcross, 2002, p.35). The same lack of specific provision of evidence-based means is found in American guidelines (e.g.Task Force on Psychological Intervention Guidelines, 1995; cited in Norcross, 2002).

Regarding the contribution of the age related aspects in TR variables, the situation is unclear. In their monumental work commissioned by the APA Division of the Psychotherapy Task Force, Norcross and his colleagues (2002) collate extensive evidence intended to increase awareness and use of the TR in psychotherapy, although they do not provide information on the way TR has to be dealt with when working with children or older adults. Psychotherapy manuals about the TR show no distinction between these types of clients either (e.g. Clarkson, 2003). Presumably this omission indicates that the same principles apply to all of them and that a life-span approach may be of little importance in the TR. Another interpretation could be that there is as yet little evidence or research done on that topic. However, it must be also complex to separate adult

development from older adult development within the therapeutic realms. Adult development is variable (Carlson, Buskist, & Martin, 2000), therefore it can be difficult to establish clear differences between these last two life stages. But also, it may be valid to look at the similarities between life stages but this falls outside the remit of this essay. Nonetheless, we have presented a number of recommendations from clinicians that seem to indicate that the different therapeutic modalities have to be adapted to the changing needs of human development. In addition to this topic, therapists must address other problems: communication, cultural aspects, language barriers, ethnicity, gender etc as themes that may affect the TR and consequently outcome (Norcross, 2002).

In relation to the evidence discussed referring to therapist variables, some commentators suggest practical implications. For instance, in the referral process clinicians could be advised to choose the most suitable type of client based on their own outcome measures (Lambert & Barley, 2002). Furthermore, Lambert and Barley state that *given the importance of the facilitative conditions and the TA for successful treatment, training in TR skills seem to be crucial for the trainee therapist* (Lambert & Barley, 2002, p.27). But also, the importance of the TR should be reflected in professional development activities for senior practitioners.

In the NHS accountability is a priority, and empirically supported psychotherapies, treatment guidelines and manual based interventions are the reference for the clinician (Mace, Moorey & Roberts, 2001). The concern with these types of policies is that they may over-emphasise the technical side of psychotherapy and, perhaps, overlook the necessity to develop an effective TR.

CONCLUSIONS

As we have seen, different therapeutic approaches attribute different weighting to the importance of the TR. However, a visible trend in psychotherapy indicates that TR is starting to be seen as an essential factor for therapeutic change. This idea is more evident when we bring the evidence that no therapy type seems to be more effective than any other, and that the TR seems to explain more variance than treatment techniques (Norcross, 2002). It would be also fair to say that although there is a relationship between TR and outcome, it is not clear whether the TR has a causal effect in outcome or if it is acting as a moderator (Dimidjian & Dobson, 2004)

Another considerable issue is that any clinician, irrespective of the therapeutic modality that he or she supports, can make use of TR concepts and knowledge in their clinical practice. Some have suggested that a transtheoretical position would be more useful to address TR issues (Safran & Muran, 2000) but that is something that perhaps, at the moment, is arguable. Certainly, the NHS guidelines are still conservative in terms of offering specific input in that topic. Much has to be done yet in terms of recommending what practice has to be promoted to develop better TRs (Roth & Fonagy, 2005).   Nevertheless, if the most relevant therapies seem to work, and all of them use TR effectively, (Norcross, 2002), it may be up to the practitioner to decide what therapeutic orientation could help better to inform his or her TR with each patient. Such assumptions could be adapted within the limits of the NHS´s policies. Working in the NHS implies certain restrictions related to funding and the cost of psychological interventions (Roth & Fonagy, 2005). Psychological interventions will be available to the public only if cost-effective treatments are developed. However, despite the evidence that supports the importance of the TR and that most relevant therapies seem to work (which are using TR aspects), pressure for

making treatments cost-effective still exists and could result in the *therapists 'non specific factors'* agenda being put aside.

The essay has also discussed that TR factors may need to be adapted across the life-span. Therapeutic tasks and goals have to be suited to the specific problems that the different life stages may present, but more research into these issues is needed. In connection with this topic there is also an issue about ageism and anti-discriminatory practice. That is, having similar therapeutic aspirations and treating people equally could imply investing more resources and allowing technical flexibility to enhance relational factors (Laidlaw, et al 2003).

Research implications about the TR may be worth mentioning. In this respect, if the TR shows more therapeutic effectiveness than techniques, more research investment should be made on TR (Lambert & Barley, 2002). The research in this field has helped to show the importance of the more interpersonal aspects of the therapy. The development and continuity of this type of research will help to expand the knowledge about all the TR variables that are related to client outcome.

Regarding the TA, the concept appears to be flexible enough to permit research scrutiny from a number of approaches and can give a supplementary advantage by joining the forces of different treatment modalities for the advancement of this area of study.

Finally, with reference to the therapeutic process as whole, evidence has been shown indicating that the TR seems to be of remarkable relevance considering the lesser attention that it has received compared to the more technical aspects of the therapy. It has been expressed elsewhere, *'there is a deep synergy between techniques and the therapeutic relationship. They constantly shape and inform each other. Clinical experience and research evidence point to a complex, reciprocal interaction between the interpersonal relationship and the instrumental*

techniques' (Rector, Zuroff & Segal, 1999; cited in Norcross, 2002, p8). Therefore, it seems to be prudent to find an equilibrium between TR and techniques. In the practical and research fields this resolution could help to maximise our professional interventions and help to refine our theoretical underpinnings.

REFERENCES

Beck, J.S. (1995). <u>Cognitive Therapy: Basics and Beyond</u>. Guilford: New York.

Beutler, L.E. (1989). Differential treatment selection: The role of diagnosis in psychotherapy. <u>Psychotherapy</u>, 26, 271-281.

Bohart, A.C., Elliot, R., Greenberg, L.S. & Watson, J.C. (2002). Empathy. In Norcross, J.C. (Ed.). <u>Psychoterapy relationships that work</u>. New York: Oxford University Press. 89-108.

Bordin, E.S. (1975, September). The working alliance: basis for a general theory of psychotherapy. <u>Paper presented at the Society for psychotherapy research</u>. Washington, DC.

Butler, R.N. (1975). Ageism, another form of bigotry. <u>The Gerontologist</u>, 9, 243-6.

Carlson, N.R., Buskist, W. & Martin, G.N. (2000). <u>Psychology. The science of behaviour</u>. Harlow: Pearson Education Limited.

Clark, D. & Steer, R. (1996). Empirical status of the cognitive model. In P. Salkovkis (Ed.). <u>Frontiers of Cognitive Therapy</u>, (pp.75-96). New York: Guilford Press.

Clarkson, P. (2003). The therapeutic relationship. London: Whurr Publishers

Cautela, J.R. & Upper, D. (1978). The process of individual behaviour therapy. In M. Hersen, R.M. Eisler, & P.M. Miller (Eds.), Progress in behaviour modification, vol.6, New York: Academic Press.

Cross, D.G., Sheehan, P.W., & Khan, J.A. (1982). Short and long term follow-up of clients receiving insight oriented therapy and behaviour therapy. Journal of Consulting and Clinical Psychology, 50, 103-112.

Dattilio, F.M., Freeman, A. & Blue, J. (2000). The therapeutic relationship. In A.S. Bellack & M. Hersen (Eds.). Comprehensive clinical psychology. (pp.229 –249). Online edition: Elsevier science Ltd.

Dimidjian, S. & Dobson, K.S. (2004). Processes of change in cognitive therapy. In M.A. Reinecke & D.A. Clark (Eds.) Cognitive therapy across the lifespan. (pp.239-82) Cambridge: Cambridge University Press.

Drisko, J.W. (2004). Common factors in psychotherapy outcome: Meta-analytic findings and their implications for practice and research. Families in Society. 85, 1. 81-90.

Eysenck, H.J. (1960). Behaviour therapy and the neuroses. Oxford: Pergamon Press.

Farber, B.A. & Lane, J.S. (2002). Positive Regard. In Norcross Norcross, J.C. (2002). Psychoterapy relationships that work. 175-194. New York: Oxford University Press.

Ford, J.D. (1978). Therapeutic relationship in behaviour therapy: an empirical analysis. Journal of Consulting and Clinical Psychology, 46, 6, 1302-1314.

Frank, J.D. (1979). The present status of outcome studies. Journal of Consulting and Clinical Psychology, 47, 310-16.

Frank, J.D. (1982). Therapeutic components shared by all psychotherapies. In J. H.Harvey & M.M. Parks (Eds.). Psychotherapy research and behaviour change. Washington, D.C.: American Psychological Association.

Goldfried, M.R. & Davidson, G.C. (1976). Clinical behaviour therapy, New York: Pergamon.

Goldstein, A. (1973). Behaviour Therapy. In R. Corsini (Ed.), Current psychotherapies. New York: F.E. Peacock.

Greenson, R. (1971). The real relationship between the patient and the psychoanalist. In M. Kanzer (Ed.), The unconscious today , 213-232. New York: International University Press.

Hartley, D. & Strupp, H.H. (1982). The therapeutic alliance. Its relationship to outcome in brief psychotherapy. In J. Masling (Ed.), Empirical studies in psychoanalytic techniques. N.J.: Psychoanalytic Press.

Hepple, J. (2004). Ageism in therapy and beyond. In Hepple, J. & Sutton, L. (Eds.). Cognitive analytic therapy and later life. A new perspective on old age. (pp.45-66). Hove: Brunner-Routledge.

Horvath, A.O. (2005). The therapeutic relationship: Research and theory. Psychotherapy Research, 15, 1-2.

Horvath, A. O. & Bedi, R.P. (2002). The alliance. In Norcross, J.C. (Ed.)

Psychotherapy relationships that work. (pp.37-69). New York: Oxford University Press.

Horvath, A. O., & Luborsky, L. (1993). The role of the therapeutic alliance in psychotherapy. Journal of Consulting & Clinical Psychology, 61, 561-573.

Horvath, A. O., & Symonds, B. D. (1991). Relation between working alliance and outcome in psychotherapy: A meta-analysis. Journal of Counseling Psychology, 38, 139-149.

Hyer, L., Kramer, D. & Sohnle, S. (2004). Psychotherapy: Theory, Research, Practice & Training. Educational Publishing Foundation, US.

Hynan, M.T. (1981). On the advantages on assuming that the techniques of psychotherapy are ineffective. Psychotherapy: Theory, Research and Practice, 18, 11-3.

Karver, M., Handelsman, J., Fields, S. & Bickman, L. (2006). Meta-analysis of therapeutic relationship variables in youth and family therapy: The evidence for different relationship variables in the child and adolescent treatment outcome literature. Clinical Psychology Review, 26, 1, 50-65. Elsevier Science: Netherlands.

Keijsers, G. P. J., Schaap, C. P. D. R., & Hoog-duin, C. A. L. (2000). The impact of interpersonal patient and therapist behavior on outcome in cognitive-behavior therapy: A review of empirical studies. Behavior Modification, 24, 264-297.

Kivnick, H. & Kavka, A. (2002). Psychotherapy and counseling with older women: Cross-cultural, family, and end-of-life issues. Springer Publishing Co, New York, NY, US.

Klein, M.H., Kolden, G., Michels, J.L. & Chisholm-Stockard, S. (2002). Congruence. In J. C. Norcross (Ed.). <u>Psychotherapy relationships that works</u>. 195-215.

Laidlaw, K., Thompson, L.W., Dick-Siskin, L. & Gallagher-Thompson, D. (2003). <u>Cognitive Behaviour Therapy with Older People</u>. Chichester: John Wiley & Sons Ltd.

Lambert, M.J. & Barley, D.E. (2002). Research summary on the therapeutic relationship and psychotherapy outcome. In Norcross, J.C. (Ed.). <u>Psychotherapy relationships that works</u>. 17-32.

Luborsky, L. (1976). Helping alliances in psychotherapy. In J.L. Clarghorn (Ed.), <u>Successful psychotherapy</u>, 92-116. New York: Brunner/Mazel.

Mace, L., Moorey, S. & Roberts, B. (2001). <u>Evidence in the psychological therapies: a critical guide for practitioners</u>. Hove: Brunner-Routledge.

Martin, Garske & Davis (2000) Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. <u>Journal of Consulting and Clinical Psychology</u>, 68, 3, 438-450.

Mitchell, K.M., Bozarth, J.D. & Krauft, C.C. (1977). Reappraisal of the therapeutic effectiveness of accurate empathy, non-possessive warmth, and genuiness. In A.S. Gurman & A.M. Razin (Eds.). <u>Effective psychotherapy</u>, 482-502. New York: Pergamon Press.

Norcross, J.C. (2002). <u>Psychoterapy relationships that work</u>. New York: Oxford University Press.

Orlinsky, D.E., Grawe, K., & Parks, B.K. (1994). Process and outcome in psychotherapy- Noch einmal. In A.E. Bergin & S.L. Garfield (Eds.), Handbook of psychotherapy and behaviour change (4th ed., 270-376). New York: Wiley.

Peter, F., Roth, A. & Higgitt, A. (2005). Psychodynamic psychotherapies: Evidence-based practice and clinical wisdom. Bulletin of the Menninger Clinic. 69, 1-58.

Rector, N.A., Zuroff, D.C., & Segal, Z.V. (1999). Cognitive change and the therapeutic alliance: The role of technical and nontechnical factors in cognitive therapy. Psychotherapy, 36, 320-328.

Rogers, 1965). The therapeutic relationship: recent theory and research. Australian Journal of Psychology, 17, 2, 95-108.

Roth, A. & Fonagy, P. (2005). What works for whom?. A critical Review of Psychotherapy Research. New York: Guilford.

Shirk, S & Karver M. (2003). Prediction of treatment outcome from relationship variables in child and adolescent therapy: A meta-analytic review. Journal of Consulting and Clinical Psychology, 71, 3, 452-464.

Secker, Kazantzis & Pachana, 2004) cognitive behavioral therapy for older adults: practical guidelines for adapting therapy structure. Journal of Rational-Emotive & Cognitive Behavioural Therapy, 22, 2.

Solomon, A., & Haaga, D. A. F. (2004). Cognitive theory and therapy of depression. In: M. A. Reinecke, & D.A. Clark (Eds.), Cognitive therapy across the lifespan: Evidence and practice. (pp. 12-39). Cambridge: Cambridge University Press.

Steering Committee (2002). Empirically supported therapy relationships: Conclusions and recommendations of the Division 29 Task Force. In J.C. Norcross (Ed.). <u>Psychotherapy relationships that works</u>. 441-3.

Sloane, R.B., Staples, F.R., Cristol, A.H., Yorkston, N.J., & Whipple, K. (1975). <u>Psychotherapy versus behaviour therapy</u>. Cambridge, Mass: Harvard University Press.

Strupp, H.H. (1976). Some critical comments on the future of psychoanalytic therapy. <u>Bulletin of the Menninger Clinic</u>, 40, 3, 238-47.

Sweet, A.A. (1984). The therapeutic relationship in behaviour therapy. <u>Clinical Psychology Review</u>, 4, 3, 253-72

Task Force on Psychological Interventions Guidelines. (1995<u>). Template for developing guidelines: Interventions for mental disorders and psychosocial aspects of physical disorders.</u> Washington, DC: American Psychological Association.

Wampold, B.E. (2001). <u>The great psychotherapy debate: models, methods, and findings</u>. Mahwah NJ: Erlbaum.

Wampold, B.E., Mondin, G. W., Moody, M., Stich, F., Benson, K. & Anh, H (no evidence of diff between schools of therapy (1997). A meta-analysis of outcome studies comparing bone fide psychotherapies: Empirically, "all must have prizes". <u>Psychological Bulletin</u>, 122, 203-215.

Waterhouse, G.J. & Strupp, H.H. (1984). The patient-therapist relationship: Research from the psychodynamic perspective. <u>Clinical Psychology Review,</u> 4, 1, p77-93.

Wilson, G.T., & Evans, I.M. (1976). Adult behaviour theray and the therapist-client relationshi. In C.M. Franks & G.t. Wilson (Eds.), Annual Review of Behaviour Therapy: Theory and Practice,12. New York: Bruner-Mazel.

Zetzel, E. (1956). Current concepts of transference. International Journal of Psychoanalysis, 37, 369-376.

University of Hertfordshire

Discuss your experience of working in multi-disciplinary teams. How might a psychological understanding of organizations or teams help you to make sense of your observations?

Written Exercise 2, Cohort 5

Gustavo Camino

Word Count: 5049
Student Number: 05108129
July 2007

INTRODUCTION

The field of mental health has evolved significantly in the last years. The context of these transformations is related to the Labour government's agenda and the modernisation of the NHS. That agenda moved the system from being a public institution that was a stable and predictable place to work to an efficient enterprise led by market principles where change and uncertainty are the norms (Reynolds & Thornicroft, 1999).

These changes have impacted upon staff working within mental health care and also on the relationship between staff and clients. For the trainee the changes meant that he was to work as a "team member" and not as an individual clinician, and a multidisciplinary team (MDT) was to be the context in which his work was to be delivered, specifically a Community Mental Health Team (CMHT) (See Appendix 1 for details of the CMHT). The CMHT was to emphasise concepts such as treatment effectiveness, quality of care and service, care management and accountability. The trainee also experienced numerous group processes (e.g. conflict, burnout, blurring of roles). This essay will put the trainee's experience into a psychological context and outline the opportunities arising for clinical psychology within a climate of renewed emphasis on quality management. By doing so, the essay will be examining and using group processes, key structural, dynamic, organisational, historical and political influences in mental health over recent years to chart the emergence of teamwork and clinical governance as the methods to articulate and coordinate the efforts to ensure quality in health services.

NEW WAYS OF WORKING

Although historically the role of clinicians in mental health has been characterised by a one to one relationship between therapists and clients, there has been a shift towards teamwork. Teamwork is firmly on the agenda as government policy-makers, consumer groups and the range of people working in health and social care all call for greater commitment for integrated care (DoH, 1998a; 1999b). Multidisciplinary working results in the breaking down of traditional professional boundaries. Increasingly, professionals are being asked to co-ordinate and manage service-users' total care irrespective of traditional role and location boundaries. Individual practitioners now face the dual challenge of holding onto their own knowledge or skill base while entering into the work of other professionals. This inevitably means developing new team relationships and ways of working.

At the same time, the concept of the NHS as an efficient enterprise has consequences in the way staff in teams has to work, and also how services perform. A critical aspect of this emphasis on the management of organisations and teams is the idea of quality improvement. Cost reduction, productivity and quality improvement have been identified as the essential factors for any company to operate successfully. The idea of Total Quality Management (TQM) has dominated organisational thinking and TQM is one of the preferred management models of successful companies all over the world. TQM principles are based on the psychology of the organisations. In fact, effective leadership, employee motivation and teamwork are fundamental parts of TQM (Oakland, 1995). TQM has permeated through all sorts of organisations (e.g. military, business, health, education). The NHS was not indifferent to this trend. The incorporation of this philosophy by the NHS has put quality in the forefront of its core values and guiding principles. At the heart of this model of managing organisations is the aim of long term success through complete "customer" satisfaction at every stage, and benefit to all members of the organisation and to

society (Hill & Wilkinson 1995). The NHS has adapted this model into its structure and has coined its own term "clinical governance" to describe a framework designed to implement continous quality improvement.

MDTs

A psychological perspective can offer MDTs much in this climate of radical changes. Team-working can be improved with the contribution of clinical psychologists to the exploration of factors specific to making health care teams more or less effective. Studies of group dynamics and of organisational change may inform this practice. Furthermore, it can contribute by identifying appropriate reinforcements to encourage and reward participation in clinical governance (DCP, 2001).

In addition, clinical psychologists may have a role in implementing stress management programmes for NHS staff. This may have important repercussions for risk management issues given that links between stress and increased risk have been documented (Firth-Cozens, 1993).

Leadership

The presence of a team leader is associated with effectiveness in teamwork (Borrill, Carletta, Carter, Dawson, Garrod, Rees, Richards, Shapiro & West, 2000; op cit in Onyett 2003, p.161). The leadership of MDTs implies a number of tasks related with the management of a mixed group of members with different backgrounds such as; accountability, integrating different levels of care, achieving effective user participation in service development and dealing with evidence-based practice (Onyett, 2003).

Culture change within the NHS can be facilitated by effective leadership and team-working skills which can be seen as essential prerequisites for a new era of

"partnership", to substitute one of competition. The NHS may benefit from the knowledge of clinical psychologists (especially those working in occupational settings) in leadership theories. Such knowledge could be invaluable in the context of appointing professionals responsible for clinical governance (Scally and Donaldson, 1998).

Strategies for effective MDTs

According to Øvretveit (1995) enabling a team to work together more positively involves working at different levels and drawing on a combination of strategies related to; team building, reviewing the team's organisation and challenging power structures.

Team building

An extensive range of literature details different staff development activities designed to promote a sense of "team-ness" and to develop teamwork skills. Typically, "time out" is recommended, where the team put aside their daily responsibilities and carve out a focused space for some shared endeavour. They may also gain from learning new team skills, such as negotiation and effective leadership (Finlay, 2000).

Reviewing team's organisation

Effective team work demands that the team regularly evaluates its processes and outcomes. Is the service being delivered appropriate and effective? Are the team members and service users satisfied? What decision making and conflict-resolution structures are in place? Evaluation must take into account the type and purpose of the teamwork involved (Onyett, 2000). For instance, close, mutually satisfying team relationships will be less of a goal for an authoritarian team than for a collaborative team.

Ideally, the team should regularly review how it functions in terms of the contributions individuals make to the whole (Onyett, 2003). Members' roles and channels of communication need to be reviewed in the context of team goals. For example, the therapists in the CMHT decided a division of labour whereby the "experts" in certain topics (e.g. trauma, sexual abuse, personality disorders) were allocated clients with specific problems or these clinicians would supervise others with less expertise in such areas.

It could be argued that the most important individual role to review is that of the leader. What type of leader is required to meet the team goals? Might it be useful to distinguish between different leader roles and allocate responsibilities according to individual member expertise?

Challenging power structures

The first step to challenging power structures is for the team to be "reflexive" and consciously critical about how they go about their daily work. Where team relationships are problematic, the team needs to give itself time to reflect on what is happening and why (Onyett, 2003). Is the conflict best understood at an individual or group level? How does the conflict impact on the team's functioning? What should be done about it?

More specifically, team members may need to confront defensive, destructive, discriminatory and disempowering practice. As Opie notes:

'*working reflexively includes acknowledging the inevitability of differential power relations between clients and health professionals and the development, and on-going critique, of modes of interaction which seek explicitly to minimise that difference'*. Opie (1997, p.273)

Teams need to react when they see they are putting their own professional or team needs before those of service-users or when unduly hierarchical practice inhibits the potential contribution of different individuals. Members may also have to challenge the use of negative stereotypes within the team and to promote mutual respect instead.

Collaboration

Where teams are concerned, conflicts are inevitable: by definition, teams involve "difference". These differences make teamwork such a demanding and difficult task. Loxley (1997, p.1) acknowledges the need for collaboration in the context of a diversity of professional points of view as the only way to meet the complex needs of clients. Loxley argues that collaboration requires communication across boundaries. Such an attitude implies overcoming power issues, corporative interests and competition for resources. Handy (1990) recommended team leaders adopt a collaborative style and focus on how problems can be solved in ways which develop others' success. A collaborative attitude can help to change the way different professions interact in a team. Traditionally, team styles are too formal and adversarial and if resolutions are not imposed, a sense of defeat spreads across individual members. Davies (1998) contrasts this view of teams with a co-coperative one where agreement is tried and changes and diversity of views help to develop personal and professional renewal. It is the challenges we pose to each other that enhance our work and stimulate us professionally.

Barriers to MDT Working

In practice, teams do not operate as effectively as they could. The issue for teams, then, is not that some ways of operating are "good" and others "bad". Instead, the working of the team should be appropriate to its purpose and function in terms of the services it is supposed to offer and the decisions it needs

to take. The challenge for all teams and team leaders is how best to achieve these ends.

'Conflict is interwoven with inter-professional collaboration because there are deep-rooted social differences in the division of labour which has developed over the last 200 years in the health service'. (Loxley, 1997, p.1)

In the CMHT tension arose in relation to differences in salaries, privileges (e.g. having a room or working in a common room), roles (e.g. psychiatrists allowed to prescribe, outline treatment options and take over when they thought was appropriate), status (e.g. psychiatrists had more authority), communication (e.g. predominantly formal with medical staff and predominantly informal between non-medical staff), change (e.g. introducing a computerised care notes system) and ways of thinking (e.g. medical model v. psychological model).

To understand what was happening in the CMHT, it would be useful to examine different levels of analysis: The individual, the group, the organisation and the society.

Individual Level

Conflicts between different professional values and team member priorities may occur in a context of unequal status and power (Finlay, 2000). Destructive sub-grouping further compounds failures to communicate. At an individual level these problems can arise because of a clash of values between individuals or professional groups (e.g. between the psychiatrist and the psychologist).

Inter-professional rivalry, prejudices and leadership conflicts often lead to a dysfunctional team. Lack of clarity of roles and responsibilities often lead to inter-personal conflicts. Traditionally, different professionals have very little exposure to other disciplines during their training. This gives rise to a rather narrow outlook

on mental health issues and a focus on a specific model of mental disorder. Exposure to team work may make professionals feel insecure and defensive; they therefore retreat to their own professional shelter (Sharma, 2000).

Individual unwillingness to relinquish familiar procedures is understandable. In fact, attempting to improve the quality of team performance can seem both threatening and de-skilling. Extensive literature on innovation suggests how behaviour alters when we must adopt new and abandon old routines (Jimmieson, Terry & Callan, 2004; Rogers, 1983). Such theoretical understanding can help to identify ways of making desirable changes in practice more likely to occur. For example, experience from a study to develop a standardized intervention for people diagnosed with schizophrenia revealed negative attitudes to change of intervention style among practitioners from an MDT. Perceptions of complexity, threat and control associated with change reflect a reaction by the professionals to an unfamiliar and externally imposed process (Jones, 2004). Therefore, ownership of the process of improving standards as well as the use of easily understandable methods of learning in a non-hierarchical environment become extremely important in fostering involvement in quality improvement work. The literature on the process of change suggests that if quality improvement is to occur and be sustained, those involved in the process need to feel that they have been instrumental in making any changes and that their efforts are valuable (Jimmieson et al 2004; Kanter, 1983). West & Farr (1990) provide evidence that employees are more inclined to abandon well-established routines and explore alternatives when they feel secure and not overloaded by unreasonable pressures.

Group level

The CMHT leader was a manager with a nursing background. Her attempts to control the team resulted in her being more authoritarian with less powerful members but ignored by the more powerful. The psychiatrist was authoritative although not confrontational. Additionally, two powerful senior social workers created a tense and conflictive team that developed all sort of alliances (sub-grouping) and disagreements.

The roles played by different members can have a major impact on how a team functions. The type of leadership role taken can alter the way a team responds. An overly authoritarian leader tends to create a passive/dependent or an angry/resistant team (Finlay, 2000).

Differences in construing conceptual basis of mental health care were seen amongst CMHT members. Some commentators suggest that consensus at this level is critical for successful team working in mental health (Sharma, 2000). But how is this possible when some authors consider as a basic assumption in team work to see severe mental illness as a "real" disease? (Munetz, Birnbaum and Wyzik 1993; op cit in Sharma, 2000 p. 267).

Group dynamics can also occur at an unconscious level. A team may put up psychological defences, such as denial, blaming and avoidance, to combat the anxieties and stresses of work (Bion, 1961; op cit in Stokes, 1994 p.19). These defensive behaviours enable the practitioners to cope, but they may also be maladaptive and produce additional problems. A team can unite against an outside threat (commonly management or another agency). This may result in a more cohesive, collaborative team, but it can also have a negative impact on professional relationships and the delivery of health and social care. In the context of barriers to effective teamwork, Bion (1961) described two basic tendencies in a group of workers. The first was putting work as a priority (so

called primary task). The second was to avoid the primary task and focus on ways to reduce anxiety and internal conflicts (basic assumption mentality). The product of the dynamic relationship between these two tendencies generates the group functioning.

Based on Bion's theory of group dynamics, Stokes (1994) suggests that the main difficulty in a MDT to focus on the primary task is the diversity of the team members and also the management structure. In a MDT the members may not share the same values or views and they may also be managed by others who are not part of the team. This may create confusion about what the primary task is. Stokes (1994) suggests defining what common purpose is and to identify the specific contribution that each member could make to the MDT. Considerable time could be saved if MDTs followed this approach. Teams meetings, team decisions and policy decisions may be negatively affected by a not well defined purpose.

Organisational level

A distinct boundary between primary and secondary care exists. This is linked to their different management structures and different set of priorities (Onyett, 2003). However, although the CMHT's main concern was related to severe mentally ill clients, GPs referred a significant amount of patients with moderate problems. In that way primary and secondary teams were not working together to set priorities and there was no accessibility to meet GPs.

Society level

The CMHT consisted largely of women working in nursing and social work posts. Psychiatry, Psychology and Occupational Therapy jobs were filled by males. Informal and formal grouping and communication was influenced by such differences.

At a society level, teams are understood to reflect the relationships and structures as a whole. In particular, teams are seen to reproduce broader social divisions (class, ethnicity, gender) and power relations. Practitioners in a team are likely to have different status, power, pay, experience and conditions of work. These are a potential source of tension and are disempowering for team members. Cott (1998) suggests team structures commonly reflect social class distinctions as high status professionals assume responsibility and control and lower status workers carry out the tasks, leading to a 'we decide, you do' division of labour. Similarly, hierarchical attitudes to gender may contrast the 'professional work' of men with the 'supportive activities' of women. Dalley (1989) argues that nurses are trapped in a deferential relationship with medical staff.

THE CHALLENGES OF WORKING IN TEAMS

Teamwork may be a desirable and an efficient way of delivering health care. However, it may also be taken as the only possible option. Practitioners are persuaded to collaborate and work within teams. This message comes from the government, professional bodies, management, and user groups amongst others. The Department of Health (DoH, 1997) set out strategic objectives in the NHS, which included the need to work across boundaries, and it acknowledged the importance of teamwork. However, it highlights difficulties in bringing together different agencies and overcoming boundary conflicts. To what extent do these assumptions match up to reality? The advantages claimed for teamwork are that it offers the possibility of setting priorities; targeting available resources; lessening duplication of work and delivering a comprehensive range of treatment and care services (Leathard, 1994). The benefit of having team members from different disciplines is that each person can offer skills and knowledge arising from their particular discipline, thus fostering inter-professional learning (Parsell &

Bligh, 1998). The complex health and social care needs of a diverse range of service-users can only be met through an equally complex and specialised division of labour (Loxley, 1997). Combining different areas of expertise warrants a thorough biopsychosocial assessment. Teamwork makes it easier to complement individual assessments and to arrive at a multidimensional understanding of mental health problems. The case manager may feel more supported by others whilst maintaining continuity of care. Clients may also feel that the team can treat them more holistically (Sharma, 2000).

In practice, the quality of care delivered is sometimes less than ideal and different problems emerge. First, from the point of view of the service user, it can be confusing, even disempowering, to have many different disciplines offering a service (Øvretveit, 1997). For instance, the CMHT proved to be destructive on many occasions where team members offered contradictory "expert" advice (e.g. taking medication). Sheldon (1994) showed evidence that, in some cases, treatment by a single profession has been demonstrated to work more effectively and that there are real difficulties in interprofessional working when interventions may be based on mutually conflicting knowledge bases and research evidence.

Secondly, a negotiated division of labour between members can actually result in less holistic practice, as each member concentrates on a small aspect of treatment. From the client's point of view the treatment received can feel fragmented with no-one supervising the overall care package. Such fragmentation can be avoided if teams experiment with different ways of organising their workload (such as adopting a case manager system). The effectiveness of this depends largely on the skills of the individual worker concerned, and the amount of co-operation afforded by the team (Finlay, 2000).

The second commonplace assumption regarding teamwork is that it is an efficient way of allocating resources. Offering a co-ordinated package of care

based on a division of labour between team members is useful as it can eliminate unnecessary duplication. Also, where a division of labour between members of the team is negotiated the best (or cheapest) person for the job can be selected (for instance, the move to train nurses to do CBT). This economic rationale for teamwork fits well with the logic of marketisation and the reality of limited resources. For instance, managers may well support the idea of nurse specialists working alongside, and to some extent replacing more expensive psychologists.

Against this, it can be argued that teamwork may well prove inefficient and expensive, particularly where team members do not communicate adequately (Mackay, Soothill & Webb, 1995). Using a team approach can also lead to unnecessary duplication. In the CMHT some clients had many different duplicating review meetings (held by outpatients' psychiatry review, care co-ordinators, social work, etc). Øvretveit (1997) confirms such problem in a study.

It can also be argued that teamwork is inefficient in that it requires so much extra work in the form of team meetings and strategic negotiations. In the CMHT it was not uncommon to hear staff complain that they did not have time to see their clients. Further, the many accumulated hours spent trying to liaise and collaborate could arguably be more usefully spent in direct client contact.

CLINICAL GOVERNANCE

Reynolds and Thornicroft (1999) tracked the political shifts within the NHS and identified two relevant trends since the 1970s: the revolt against the values of expertise and the increased interest in participatory democracy. The effects of such shift in attitudes is evident in legislation such as the Access of Information Act (1991) which asserts that professions cannot claim the mystical power of technical skill as the basis for their status, but need to present their expertise in a

way in which is clearly relevant and meaningful to consumers and users (Dooley, 1994). Ultimately, therefore, they must be prepared to be called to account in the public arena for their professional decisions and actions.

For the best part of the 1990's, the NHS operated an "internal market" whereby health care was purchased (either by general practitioners who held their own budgets, or by health authorities for GPs who did not), from providers (hospitals or community trusts). A business ethos permeated the NHS in the last decade and patients have been encouraged to be "consumers" of care and therefore expect basic levels of care as well as to make choices about the services offered to them, and complain if their expectations are not met. It follows from this that all NHS work needs to be accountable, accessible to external scrutiny, and thus open to criticism.

Under previous government legislation such as the Community Care Act (1989), the explicit statutory responsibilities of NHS trusts covered only financial probity. The emphasis, therefore, was on cost-effectiveness not quality. However, greater emphasis on clinical-effectiveness has been a national priority since 1994 (Baker & Firth-Cozens, 1998). The underlying aims are to improve patients' health and to make best use of the money spent on health care by eliminating care which research has shown to have little benefit or to even be harmful, and increasing the provision of care which has been shown to have definite benefits. Such shift requires MDTs to demonstrate and measure the effectiveness of their clinical activities. Also, they are expected to establish mechanisms to monitor and improve the care they provide.

In this change of climate, evidence-based practice and clinical audit have become the cornerstones of improved patient care in the increasingly research-informed NHS (Peckham, 1991). Roth and Fonagy (2005) see evidence-based practice as reference to treatment guidelines and protocols in order that a clinician can judge how best to provide care for the individual client.

The term "clinical governance" first appeared in the White Paper 'The New NHS: modern and dependable' (DoH, 1997). The main components of the process were set out in 'A First Class Service' (NHSE, 1998), and refined in the health circular 'Clinical Governance in the New NHS' (NHSE, 1999). The White Paper (1997) states that professional and statutory bodies have a vital role in setting and promoting standards, but shifting the focus towards quality will also require practitioners within MDTs to accept responsibility for developing and maintaining standards within their local NHS organisations. For this reason the government will require every NHS trust to embrace the concept of clinical governance so that quality is at the core, both of their responsibilities as organisations and of each of their staff as individual professionals. This means that the exercise of individual accountability in a multidisciplinary clinical environment has never been more relevant (Butterworth & Woods, 1998).

As has been said earlier, much that underpins clinical governance is not new. However, previous to the advent of new ways of managing organisations as TQM and MDTs, the NHS and its staff were already familiar with quality concepts. However, this work was largely uncoordinated. What clinical governance provided was a formal structure which ensures that all professionals are involved and that their activities are co-ordinated (Lovell and Richards, 1999).

Clinical governance is therefore another form of TQM. The variety and complexity of the mechanisms required making it happen, as well as the level of involvement and co-ordination of health professionals needed point to clinical governance as a complex and sophisticated evolutionary development of relatively simple quality control strategies like clinical audit.

Clinical Governance and Clinical Psychology

The new emphasis on measuring and demonstrating quality poses challenges to many professionals working in MDTs whose main interests may be clinical and who may not be particularly competent in or enthusiastic about the various quality assurance activities required of them.

Changes within the NHS and the need to develop and support quality initiatives are stimulating a re-evaluation of the role of clinical psychology (Firth-Cozens, 1995). Some have argued that clinical psychology is particularly well placed to both undertake quality assurance activities and train other professionals in the skills required for this task (DCP, 2001; Robertson and Hearnshaw, 1998). The scientist-practitioner model and evidence-based practice are, in fact, guiding features of clinical psychology training. If clinical psychologists are then familiar with methods to ensure quality they may therefore be well placed to identify the best outcomes of health care in MDTs.

While clinical governance introduces renewed emphasis on producing evidence to justify one owns work, this process of self-justification (and self-protection) is not new. During the 1980s and 1990s, clinical psychologists had to demonstrate that they are a value for money (Dooley, 1994). The MAS report (1989) and the MPAG Report (1990) both provided support for a wide-ranging and professionally ambitious place for British clinical psychology (Paxton, 1999).

However, not all concerning clinical governance may be good news. It could be seen as formal recognition by the NHS of a cultural atmosphere where a "business view of knowledge" is dominant (Smail, 1998). An emphasis on evidence-based practice could reduce creativity and scientific discovery. Innovation and clinical development depend to some extent on 'trying out'. Perhaps there is a further, albeit challenging, role for clinical psychology in

ensuring that an impoverished view of knowledge does not permeate clinical governance initiatives.

There is a role for clinical psychology in implementing clinical governance within its own profession. Certainly, at an individual level, this includes participation in the central activities of clinical governance. At an organisational level, it includes the work of CORE, the BPS's Centre for Clinical Outcomes Research and Effectiveness.

It appears that clinical psychologists could be particularly useful in MDTs in foreseeing what is needed for clinical governance to work, and in contributing to its implementation at different levels (e.g. individual, team and organisational level).

CONCLUSIONS

In the introduction of the essay was expressed the idea that mental health services seem to be now in a state of flux. However, the main issues facing these services in general and MDTs in particular are related to consolidate and maintain quality standards of care. The way quality can be assured seem to rely on several factors commented in the sections of effective MDTs and barriers to effective teamwork. In that way, psychological knowledge can contribute to this aim. However, engaging in teamwork is always challenging. In fact, teamwork and collaboration may not be a universal panacea. We may need to be critical and question whether teamwork is the best way of delivering services in optimum service, and how the challenges of actually engaging in team collaboration can be faced (Loxley, 1997).

Within MDTs and in a wider organisational context, clinical governance promises a fundamental shift in the way health care is provided, monitored and evaluated. Quality of services is central and it is, for the first time in the history of the NHS, placed on the same footing as financial consideration. Clinical psychology and the discipline of psychology have much to offer to its development. Clinical governance seems to offer formal recognition to the underlying principles of organisational and clinical psychology (e.g. TQM, leadership, group dynamics). It identifies as important many elements which have been part of the work of clinical psychologists for years, not least the need to define and provide evidence to justify what health care professionals do.

Clinical governance as an overarching principle able to encompass individual, group and organisational levels seems the most rational initiative and an expected driving force of change within the NHS. However, on many occasions it does not feel that way. In practical terms change in aged and highly bureaucratic NHS may be slow. There may remain entrenched policies, attitudes and excessive bureaucracy both for its own sake and because of a constant fear of litigation. Organisational change seems to be inevitable but strategic change needs to be supported by evidence and not only by economic principles or corporative interests. For example, the government's plan for the mental health system is to be subsumed into GP led primary care systems. That may medicalise mental health care and place the power of decision making in the hands of GPs. Moreover, excessive inclination for evidence-based practice may run the risk of leading to an impoverished way of researching (Newnes, Holmes & Dunn, 2005).

Furthermore, clinical governance as a TQM attempt at balancing cost-effectiveness and quality might be more problematic in a health context than in a business context. If achieving quality requires expensive resources, it might be possible that in times of financial crisis closing services, freezing posts and reductionistic ways of service evaluation might become the preferred means of

stamping out bad performance. Will clinical governance and teamwork 'work' when their very conceptualisation may suffer from a pragmatic and perhaps even logical fault?

REFERENCES

Baker, R. & Firth-Cozens, J. (1998). Evidence, quality of care and the role of psychology. The Psychologist, 11, 9, 430-32.

Bion, W. (1961). Experiences in groups. New York: Basic Books.

Borrill, C.S., Carletta, J., Carter, A.J., Dawson, J.F., Garrod, S., Rees, A., Richards, A., Shapiro, D. and West, M.A. (2000). The effectiveness of health care teams in the National Health Service. Birmingham: Aston University.

Cott, C. (1998). Structure and meaning in multidisciplinary teamwork. Sociology of Health and Illness, 20, 848-73.

Butterworth, T. & Woods, D. (1999). Clinical governance and clinical supervision: working together to ensure safe and accountable practice. Brief paper. University of Manchester.

Dalley, G. (1989). Professional ideology or organizational tribalism? The health service and social work divide, in R.Taylor and J.Ford (Eds.) Social Work and Health Care. London: Jessica Kingsley Publications.

Davies, C. (1998) Care and the transformation of professionalism. In T. Knijn and S. Sevenhuijsen (Eds.) Care, citizenship and social cohesion: Towards a Gender Perspective. Utrecht, Netherlands School for Social and Economic Policy Research.

DCP (2001). <u>Working in teams; A report by the Division of Clinical Psychology</u>. Leicester; The British Psychological Society.

DoH (1997). <u>The New NHS: Modern and Dependable</u>. London: The Stationery Office.

DoH (1998a). <u>A First Class Services- Quality in the New NHS</u>. London; Department of Health.

DoH (1998b). <u>Modernising Social Services: promoting independence, improving protection, raising standards</u>. London; The Stationery Office.

DoH (1999a). <u>Saving Lives: Our Healthier Nation</u>. London; The Stationery Office.

DoH (1999b). <u>National Service Framework for Mental Health</u>. London; Department of Health.

Dooley, C. (1994). Professional issues in the 1990´s and beyond: new demands, new skills. In S.J.E. Lindsey and Powell (Eds.). <u>Handbook of clinical adult psychology. Second Edition</u> (p.787-807). London: Routledge.

Finlay, L. (1999). Safe haven and battleground: collaboration and conflict within the team. In C. Davies, L.Finlay and A. Bullman (Eds.) <u>Changing Practice in health and social care</u>. London; The Open University.

Finlay, L. (2000). The challenge of working in teams. In A.Brechin, H.Brown and M.A.Eby (Eds.) <u>Critical Practice in Health and Social Care</u> (p.164-184). London; the Open University.

Firth-Cozens, J. (1995). Psychologists' contributions to the quality agenda. Discussion paper in symposium "The role of psychology in quality in health care". The British Psychological Society, London Conference. Cited in: Robertson, N. and Hearnshaw, H. (1998). Managing quality in health care…The opportunities. The Psychologist, 11, 9, 423-25.

Firth-Cozens, J. (1993). Stress, psychological problems and clinical performance. In C.Vincent, M.Ennis and R.J. Audley (Eds.) Medical Accidents. Oxford: Oxford University Press.

Handy, C. (1990). The Age of Unreason. London; Arrow.

Hill ,S. and Wilkinson, A. (1995). In search of TQM. Employee Relations,17, 3, 8-26.

Jimmieson, N.L., Terry, D.J. and Callan, V.J. (2004). A Longitudinal Study of Employee Adaptation to Organizational Change: The Role of Change-Related Information and Change-Related Self-Efficacy. Journal of Occupational Health Psychology, 9, 1, 11–27.

Jones, A. (2004). Perceptions on the standardization of psychiatric work: development of a care pathway. Journal of Psychiatric & Mental Health Nursing. 11, 6, p.705-713.

Kanter, R.M. (1983). The Change Masters. New York: Free Press.

Leathard, A. (1994). Interprofessional Developments in Britain. In A. Leathard (Ed.) Going interprofessional (p.3-38). London: Routledge.

Lovell, K. and Richards, D. (1999). Clinical governance. Making quality count. Mental Health Care, 2, 5, 178-80.

Loxley, A. (1997). Collaboration in Health and Welfare: Working with Difference. London; Jessica Kingsley Publishers.

Mackay, L., Soothill, K. and Webb, C. (1995). Troubled times: the context for interprofessional collaboration. In K.Soothill, L.Mackay and C.Web (Eds.) Interprofessional relations in Health Care. London; Edward Arnold.

Morrison, P. (1994). Understanding patients. London; Bailliere-Tindall.

Munetz, R., Birnbaum, A. & Wyzik, P. (1993). An integrative ideology to guide community-based multi-disciplinary care of severely mentally ill patients. Hospital and Community Psychiatry. 44, 6, p.551-5.

Newnes, C., Holmes, G. & Dunn, C. (2005). This is madness too: Critical perspectives on mental health services. Ross-on-Wye: PCCS Books Ltd.

NHS Executive (1998). A First Class Service Quality in the New NHS. London; NHSE.

NHS Executive (1999). Clinical Governance in the New NHS. London: NHSE.

Oakland, J.S. (1995). Total Quality Management; The route to improve performance. Oxford: Butterworth and Heineman.

Onyett, S. (2003). Teamworking in mental health. Hampshire: Palgrave MacMillan.

Opie, A. (1997). Thinking teams thinking clients: issues of discourse and representation in the work of health care teams. <u>Sociology of Health and Illness</u>, 19, 259-80.

Øvretveit, J. (1995). Team decision making. <u>Journal of Interprofessional Care</u>, 9, 41-51.

Øvretveit, J. (1997). How to describe interprofessional working. In J. Øvretveit, P.Mathias and T.Thompson (Eds.) <u>Interprofessional working for health and social care</u>. Basingstoke and London; Macmillan.

Parsel, G. and Bligh, J. (1998). Inter-professional learning. <u>Postgraduate Medical Journal</u>. 74, 868, p.89-95.

Paxton, R. (1999). Developing audit in developing psychology organisations. <u>Clinical Psychology Forum</u>, 129, 22-25.

Peckham, (1991). Research and development for the National Health Service. <u>The Lancet</u>, 338, 367-71.

Reynolds, A. & Thornicroft, G. (1999). <u>Managing mental health services</u>. Buckingham; Open University Press.

Robertson, N. and Hearnshaw, H. (1998). Managing quality in health care…The opportunities. <u>The Psychologist</u>, 11, 9, 423-25.

Rogers, E.M. (1983). <u>Difussion of Innovation</u>. Third Edition. New York: Free Press.

Roth, A. & Fonagy, P. (2005). <u>What works for whom? A critical review of psychotherapy research</u>. London: Guildford Press.

Scally, G. & Donaldson, L.J. (1998). Clinical governance and the drive for quality in the new NHS in England. <u>British Medical Journal</u>, 317, 61-66.

Sharma, V.K. (2000). Team Working: From theory to practice. In L.Cotterill and W.Barr (Eds.) <u>Targeting in Mental Health Services; a multi-disciplinary challenge</u>. Aldershot; Ashgate Publishing Ltd.

Sheldon, B. (1994). The social and biological components of mental disorder: implications for services. <u>International Journal of Social Psychiatry</u>, 40, 87-105.

Smail, D. (1998). What´s it all about. <u>Clinical Psychology Forum</u>, 119, 22-24.

Stokes, J. (1994). The unconscious at work in groups and teams; contributions from the world of Wilfred Bion. In A.Obholzer and V.Z. Roberts (Eds.) <u>The Unconscious at Work; Individual and Organizational Stress in the Human Services</u>. London: Routledge.

West, M.A. & Farr, J.L. (1990). <u>Innovation and creativity at work: Psychological and organisational strategies</u>. Chichester: John Wiley.

APPENDIX 1

A multidisciplinary team (Community Mental Health Team)

Team members

1 consultant, 1 junior doctor, 10 nurses, 1 support worker, 1 occupational therapist, 3 part-time social workers, 1 manager, 1 psychologist, 1 trainee psychologist, 1 assistant psychologist.

The way the team was organised/functioned

The consultant had overall medical responsibility and (through the junior doctor's and other qualified team members) oversaw all outpatient and inpatient admissions, discharges and treatment decisions. Internal referrals were made to allocate the new clients to the most suitable staff member who acted as a key worker. Thereafter the key worker saw the client for an initial assessment and negotiated treatment goals. The staff team met regularly to review the progress of the more difficult clients in each key workers caseload. In this meeting the key worker discussed his or her interventions and gained support and advice from the other members. They key worker could also refer the client to other team members for specific interventions as relevant. The team leader chaired the meetings and was the manager with overall responsibility. Policy decisions regarding day-to-day team practice are created jointly by the all team members and regularly reviewed. If the client was admitted to the ward, decisions about treatment strategies were largely made by the consultant. The routine format was that in outpatients team meetings clinicians reported to the team on first assessments or client's progress. Members of the team outlined the next step for treatment after listening to the reports. The senior therapists and nurses met on a weekly basis to discuss the overall management of particular patients' treatments.

In terms of quality control, the team operated using an electronic system where relevant aspects of care where introduced regularly by every clinician (e.g. date of every care episode, type of intervention, etc.).

Closeness of Team Relationships and Degree of Interaction

Sometimes conflicts and tensions in the team surfaced and were usually related to not feeling sufficiently valued by the manager. Other problems were related to defending role boundaries, but members never expressed their feelings in the open. Occasionally, team members clashed in terms of their professional beliefs (e.g. about the role of medication). In general, psychology felt not very well understood by the rest of the team and considered to be the only professionals standing to the medical model.

University of Hertfordshire

Staff Training Needs on How to Deal with Challenging Behaviour of Learning Disabled Adults Referred to Intensive Support Service (ISS)

Small Scale Research Project. Cohort 5

Gustavo Camino

May 2007

Student Number: 05108129

Word Count: 5013

Staff Training Needs on How to Deal with Challenging Behaviour of Learning Disabled Adults Referred to Intensive Support Service (ISS)

Abstract

Background: Government policies highlight the need for adequate planning and intervention in services for people with learning disabilities who display challenging behaviour (Department of Health, 2004). However, these services are often not tailored to meet the needs that the clients and carers require.

Aim: The aim of the project was to explore the training needs of front line staff who work with adults with learning disabilities who present with challenging behaviour. The services that were the object of the study were in the catchment area of the local Intensive Support Service (ISS) in North Hertfordshire.

Method: In line with the '*Valuing People*' White Paper (DoH, 2001) and BPS clinical guidelines on '*Psychological Interventions for Severely Challenging Behaviours shown by People with Learning Disabilities*' (2004), a focus on partnership between different agencies was adopted. A survey was conducted to explore the training needs of front line staff who deal with challenging behaviour.

Results: All services showed a high level of training and on-going training was available. However, the training offered was predominantly generic and overemphasised physical interventions. It was also felt that further training input would be of benefit.

Conclusion: The competence and confidence of staff working in local services for people with learning disabilities seemed to be associated with smaller establishments and more tailored training packages. A need for more tailored

training packages was identified across services but especially in publicly funded ones. The individual needs of each service would also be met by providing more psychologically designed training packages.

Contents

Introduction

Throughout the last two decades increasing attention has been paid to the needs of people with learning disabilities (LD) who have challenging behaviour (CB). Several seminal documents were published at the end of the eighties and the beginning of the nineties indicating the need for community based services to meet their needs. According to these studies local services should find their own way forward and should evaluate their results.

CB in people with LD is not an uncommon aspect of the work with this client group. The prevalence of CB in people with LD indicates that in the UK between 10 to 15% of such a client group show some form of CB (Holden & Glitesen, 2006). This problem can be particularly prevalent in those suffering with mental health difficulties (Xenidis, Gratsa, Bouras, Hammond, Ditchfield, Holt, Martin, & Brooks, 2004). CB may pose considerable problems of containment and public safety. The competence of local LD services to cope with these difficulties presents a challenge to good practice, person centred care and effective delivery of care.

CB in people with learning disabilities has been defined by Emerson (2001) as:

 'Culturally abnormal behaviour(s) of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities'.p.3

Implicit to this definition is the concept of quality of life, namely that CB is a factor that can prevent the person from having or developing an acceptable level of quality of life. In fact, many services for people with LD use the concept of

'quality of life' as an outcome (Felce & Perry, 1995; op cit in Kushlick, Trower & Dagnan, 1997). It has been suggested that a definition of CB that describes the concept as an obstacle in achieving a high quality of life may allow professionals to understand staff's and client's behaviours in the same way.

In relation to the concept of quality of life, a significant amount of change and innovation in the area of CB with people with LD has occurred in recent years. Services for people with LD were the first to begin the large-scale move towards community care to provide high quality of life (Mansell, 1993). Since the 1971 White Paper '*Better Services for the Mentally Handicapped' (DoH)* an enormous effort has been made in terms of replacing poorly-staffed, under-resourced, degrading institutional settings with smaller, properly staffed and resourced homes and work or education placements. According to Mansell (1993), whether these services continue to get better depends in part on how they respond to CB, not just in the small number of people who present exceptional problems at any one time, but throughout their service.

Two papers helped to set out a framework for developing high quality services for people with CB. The Blunden (1987) and Mansell (1993) publications have been considered as very influential in this respect (op. cit. in Greig, 2003). The Blunden paper helped to develop a framework based on the person centred approach and the Mansell report identified key themes related to service development (e.g. services should have trained staff, and one of the roles of specialist services in LD should be to teach and train staff).

The Mansell report, which was commissioned by the Department of Health suggested that specific changes had to be introduced such as community services (e.g. small, staffed housing as an alternative to large institutions), in order to be able to implement policies based on high quality of life for people with LD. This report also emphasised the need for creating services that are

competent to prevent and respond to CB. This capacity would be based on individualised service planning and interventions, tailored interventions, good understanding of the clients and a sound knowledge of human communication. All these competencies can only be in place if services have the adequate number of trained staff over the longer term. For that reason, the Mansell report considered it a high priority to train staff to be able to treat and respond to CB and with sufficient skills to help services work through difficult periods.

In spite of the Mansell Report recommendation, the government White Paper '*Valuing People*' (DoH, 2001) still declares that day services for people with LD often are not tailored to their needs. In this government publication studies of the management of people with CB are cited to comment that there is still an over-dependence on the use of psychotropic drugs with poor outcomes as a consequence. Instead, it is proposed that services should be planned and delivered with a focus on a partnership between different agencies and professions. In that way specialist staff should recognise the importance of enhancing the competence of local services.

In fact, the '*Valuing People'* document recommends that:

'*In addition to their clinical and therapeutic roles specialist staff should take on a teaching role; to enable a wide range of staff, including those who work in social services and the independent sector, to become more familiar with how to support people with learning disabilities to have their health needs met*'. *p.60*

The BPS clinical practice guidelines on '*Psychological Interventions for Severely Challenging Behaviour shown by People with LD*' (2004), seems to be aligned with these suggestions. In fact, staff training is considered to be an identified component of intervention, which aims at changing environmental factors in a service setting. These BPS guidelines also coincide with the NHS Clinical Governance Policies (Department of Health, 1998) in suggesting that clinical

audits can be a way to help to maintain and ensure that appropriate levels of care are delivered to improve service user care.

Aim of the Study

In line with these policies the present audit sets out to identify the training needs of front line staff who work with adults with LD who present with CB in North Hertfordshire.

The researcher was working as a trainee clinical psychologist within an ISS based in the community at Hitchin Hospital. After discussions with the Principal Clinical Psychologist from the ISS team, it became apparent that due to the number of referrals to the service related to CB it was appropriate to identify the training needs of front line staff in relation to this problem. It was felt that the number of referrals could be reduced if more training was provided. The Principal Clinical Psychologist was particularly interested in also developing a close relationship with the different local services in order to tailor the potential training interventions.

The aim of the study was to explore the training needs of the services identified in the catchment area of the ISS. It was felt that this work would be exploratory and that a closer approach to the different services could be developed once this step was completed. It was intended that any identification of need should be used to justify a meeting with the manager of the team to understand what type of training would be necessary and when it could be offered in the future. At the time of this research psychology services within the whole of the trust were being reviewed, consequently it was felt to be a good time to help to highlight the importance of psychology within the ISS team and also to explore potential service developments.

Methodology

Design

The managers of each of the 16 identified services in the catchment area of the ISS working with adults with learning disabilities were contacted and invited to participate, along with the staff, in a survey to explore their needs in terms of training related to CB. It was made clear that the work would be exploratory and that training after the completion of the survey could not be guaranteed or delivered within the year when the survey was carried out.

Letters were sent to all services inviting them to participate and outlining the purpose of the study (See Appendix 1). This was intended to promote interest in completing the questionnaire. In order to maximise the participation of staff, face to face interviews were carried out with the managers of the service once they had received the letters. This was to help them to make sense of the survey and motivate staff to complete the questionnaire.

A second meeting was arranged with the managers to collect the completed questionnaires and to discuss or answer any questions.

In choosing the design of the questionnaire it was imperative to select a method that would allow a representative number of staff from each service to provide information without taking too much time or effort to complete the task. It is known that staff working with adults with learning disabilities are a stretched service and often with high attrition rates (Clifton, Brown & Naylor, 1993). This was seen as a crucial issue given the number of potential participants, and that for many of them the questionnaire would be a competing task with their routine work. Additionally, a concise questionnaire with clear open and closed-ended questions would maintain a balance between allowing the participants to give

more personal opinions or qualitative information and standardised data to be obtained.

Development of the Questionnaire

To develop useful and valid questions the researcher followed the basic rules of questionnaire design in terms of format, content and style (Sudman & Bradburn, 2004). To obtain the most valuable information from the participants, the researcher met with the Principal Clinical Psychologist from the ISS and also with a member of the local audit committee who had experience in designing audit questionnaires. The purpose of these meetings was to have brainstorming sessions to develop a number of different potential questions (e.g. demographical, open ended, qualitative etc.) to criticise and analyse in terms of value or level of difficulty. This would help to create an optimum questionnaire with the maximum of possibilities to collect relevant information and with minimal sources of confusion. Appendix 2 contains the questionnaire that was provided to the workers.

Analysis of the Questionnaire

Analysis involved counting and averaging the answers from the rated questions and interpreting the more qualitative answers.

Ethical Approval

When the researcher and the Principal Clinical Psychologist had agreed the topic of the audit and had identified the methodology, an appointment was made with the lead of the local ethics and audit committee. It was made apparent that this was a project that the committee was able to take forward. Ethical issues related

to the anonymity of the questionnaire were discussed with the lead of the committee and it was agreed that individual responses had to be anonymous.

Results

The answers to the questions and more important findings are reported below. Percentages and graphs are provided. The collective or general results across all services are outlined and results from private and publicly funded services are also delineated.

The 16 services that work with adults with learning disabilities from the selected area were targeted for the data collection. To make sure that all staff were represented in the study, managers were asked if the questionnaires were representative of the centre. For instance, they were asked if the proportion of males or ethnic minorities obtained from the questionnaires were similar to the actual numbers in the service.

General Data

From the total number of staff identified (243) a 66.2% response rate was obtained (161 questionnaires). In terms of job distribution 10.4% were managerial staff and 72.7 % were support workers. With regards to gender, 75.6 % of the respondents were female and 20.6% were male. The ethnicity indicated that 75.6% of the respondents were White British, 7.5% White Irish, 3.1% Any other White Background and 2.5% Black Africans.

The age of the respondents was well distributed as can be seen in Figure 1. From the four established age groups only the segment 32 to 41 years was less represented compared to the other age segments (16.9%).
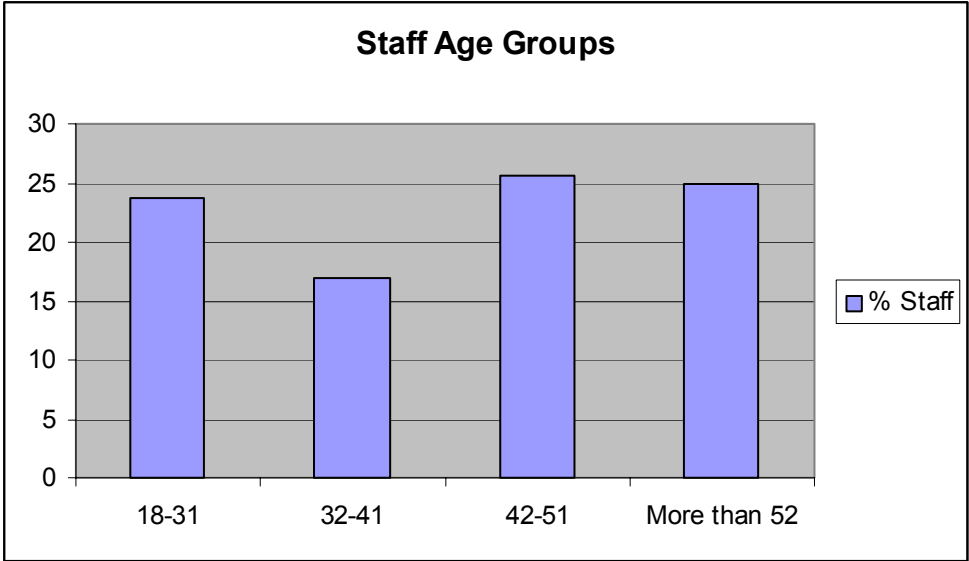
Staff Age Groups

Figure 1

In terms of job experience (See Figure 2), one third of the respondents had more than 5 years of experience in the current job (30.6%) and more than half had 3 or more years of experience in their current job (55%). Only 6.2% had less than 6 months of experience in the current job.
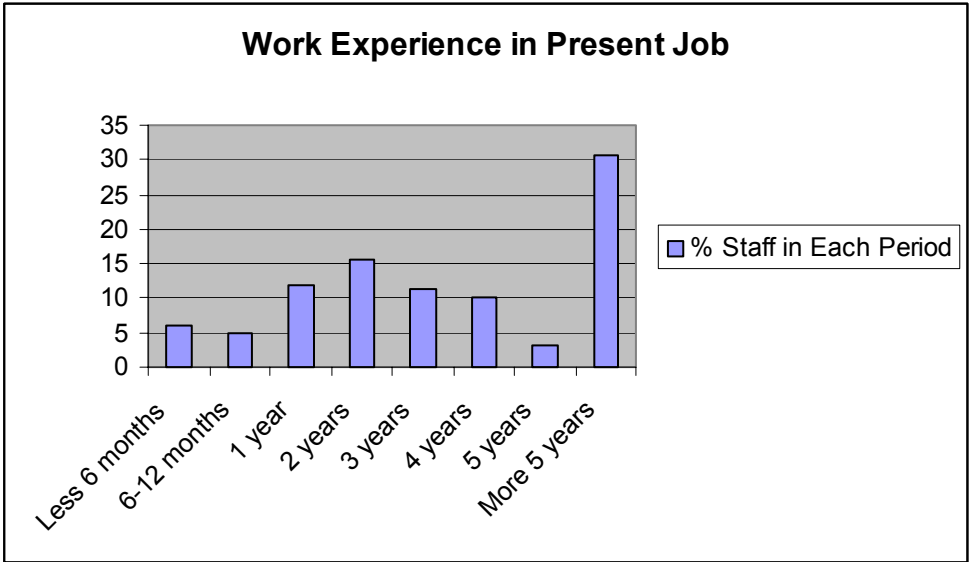
Work Experience in Present Job

Figure 2

With regards to training experience on how to deal with challenging behaviour 84.4% claimed to have had some sort of training and 8.5% stated that they had never had any training, as can be seen in Figure 3.

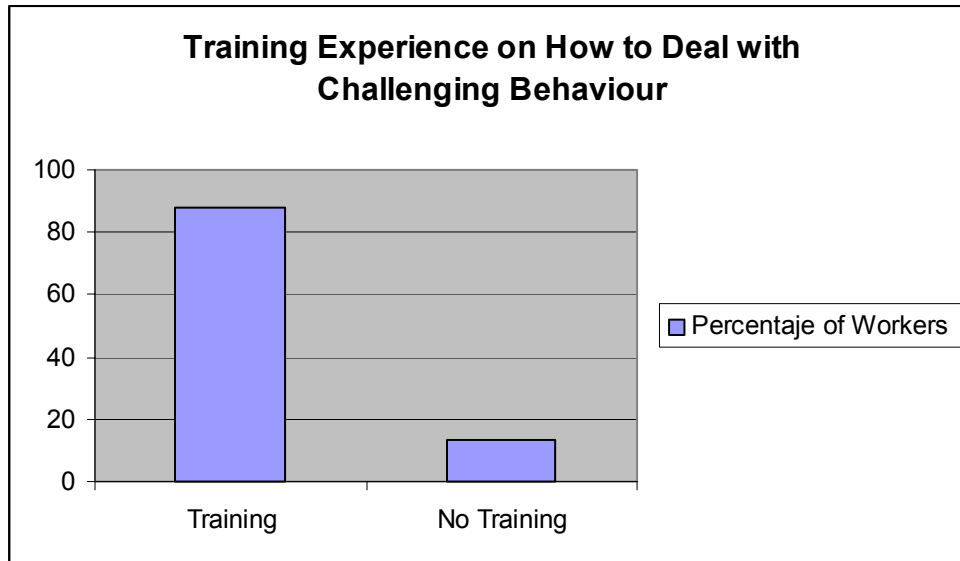**Training Experience on How to Deal with Challenging Behaviour**

Figure 3

When they were asked about the type of training that they received, 65.6% considered that they had had formal training and 9.4% claimed to have received informal training. Most of the questionnaires that contained a positive answer in relation to informal training did not give any description of this type of training.

31.9% of the respondents stated that they had received their training on challenging behaviour in the last year. 56.2% received their training during the last three years.

18.7% of the respondents considered that a refresher course was not necessary, whereas 58.1% expressed their interest in a refresher course.

A majority of respondents reported feeling 'very confident' or 'confident' when dealing with challenging behaviour (69.4%). Only 2.5% felt 'not confident' when they had to deal with challenging behaviour. These results are depicted in Figure 4.
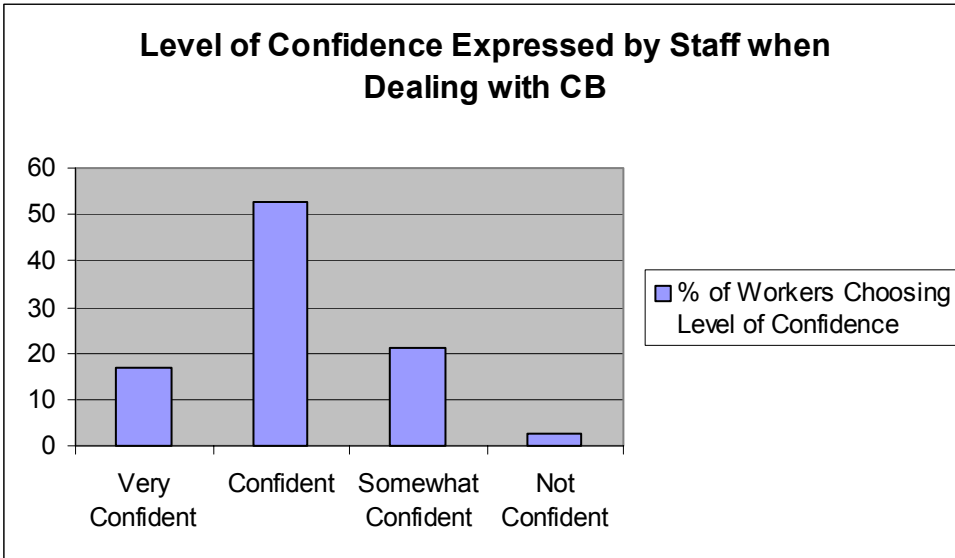
Level of Confidence Expressed by Staff when Dealing with CB

Figure 4

Social Services Establishments

Six out of the sixteen establishments studied in this audit were funded by Social Services (37.5%). 137 staff worked in those services. From this number, 64.2% of questionnaires were returned (88).

From the 88 questionnaires that were returned, 63 corresponded to support workers (71.6%) and 8 to managerial posts (9%).

35% of the respondents indicated that they had been working in the current job for more than five years. A third of the respondents had been in the current post between one to two years.

As can be seen in Figure 5, the overwhelming majority of the respondents stated that they had had training on challenging behaviour (92%) and only 7.9% stated that they had not have any training.

Social Services Establishments

Figure 5

From those who received training to deal with CB, 87.5% received formal training and 4.5% received informal training. Half of the respondents indicated that they had received training in the last two years (51.1%) whereas 12.5% stated that they had received training over five years ago.

Nearly a third of the respondents stated that their training had been delivered in a day course (27.3%) while another third (32.9) received training in 2 to 4 day courses.

All of them indicated that they had received the same training package from Adult Care Services (ACS), which included basic notions of communication and breakaway techniques.

As illustrated in Figure 6, 55.7% of the respondents felt 'confident' or 'very confident' (7.9%) in dealing with challenging behaviour. About one fourth of the respondents considered that they were 'somewhat confident' (23.9%) and 2.3% felt 'not confident'. From the last two types of responses ('somewhat confident' and 'not confident'), 20.8% of them had not had any training and 66.7% had training in the last two years or less and two cases had training over five years ago 8.3%.

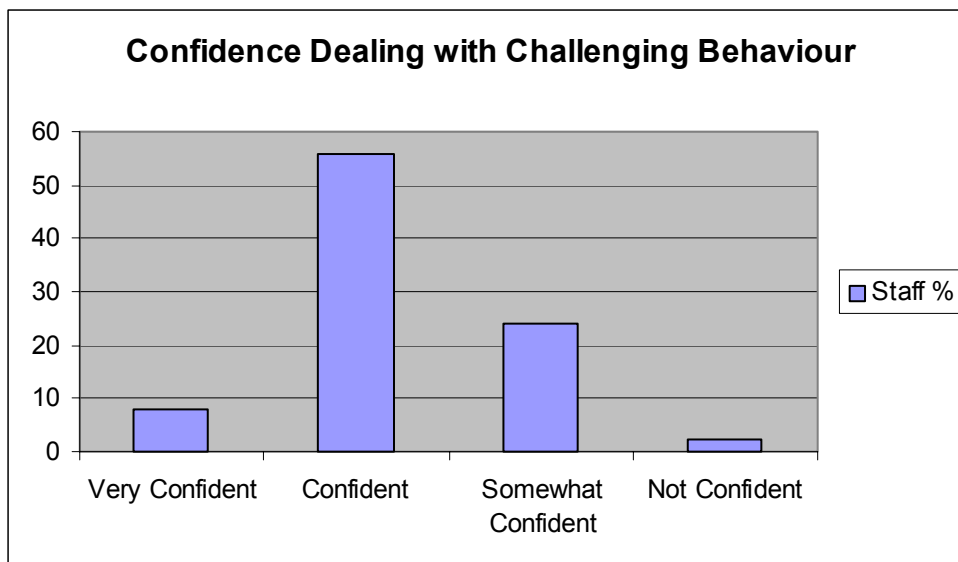**Confidence Dealing with Challenging Behaviour**

Figure 6

Between those who felt confident or very confident in dealing with CB, 64.6% had had training in the last 2 years, and 33.3% had had training three years or more ago (See Figure 7). 35% had been more than five years in post and 31.2% had been between three to five years in post.

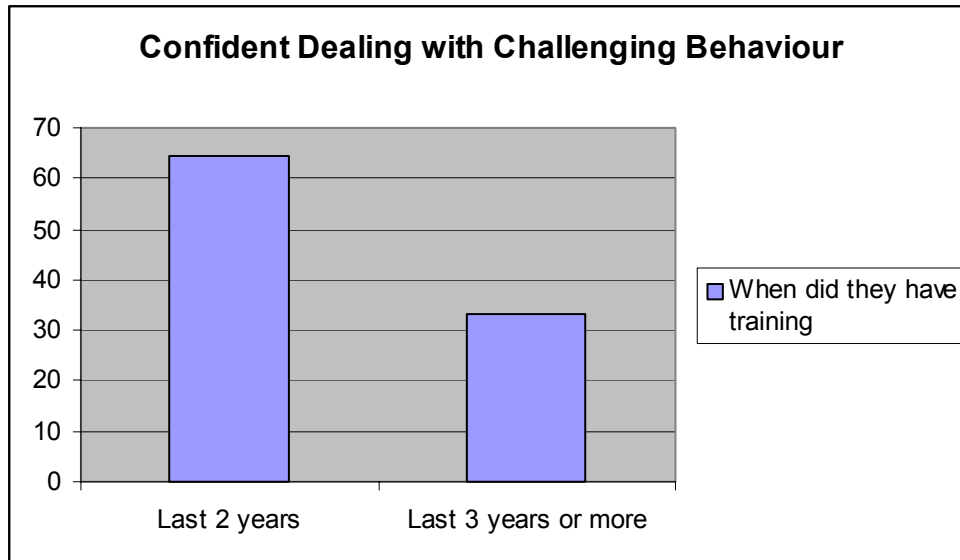**Confident Dealing with Challenging Behaviour**

Figure 7

52.1% of those having training in the last two years were in post three or more years. 20.8% of those having training in the last two years did not want a refresher. Most of them had been in post at least 2 years. From those receiving training in the last two years there were also 14 workers feeling 'somewhat confident' (29.2%) and one non confident (2.1%).

50% of those having had training more than two years ago were in post more than five years and 72.7% had been in training 3 years or more. Of them (those having had training more than 2 years ago), 27.2% (6 staff) chose 'somewhat confident' to describe how they felt in dealing with CB. From them one had been working for less than six months in the same place and the rest (5) had been working in the same place for more than 3 years.

As can be seen in Figure 8, 71.6% of staff working in social services' establishments wanted a refresher and from those, 42.9% had had training in the last two years. Only 12.5% did not want a refresher as they had had training in the last two years.
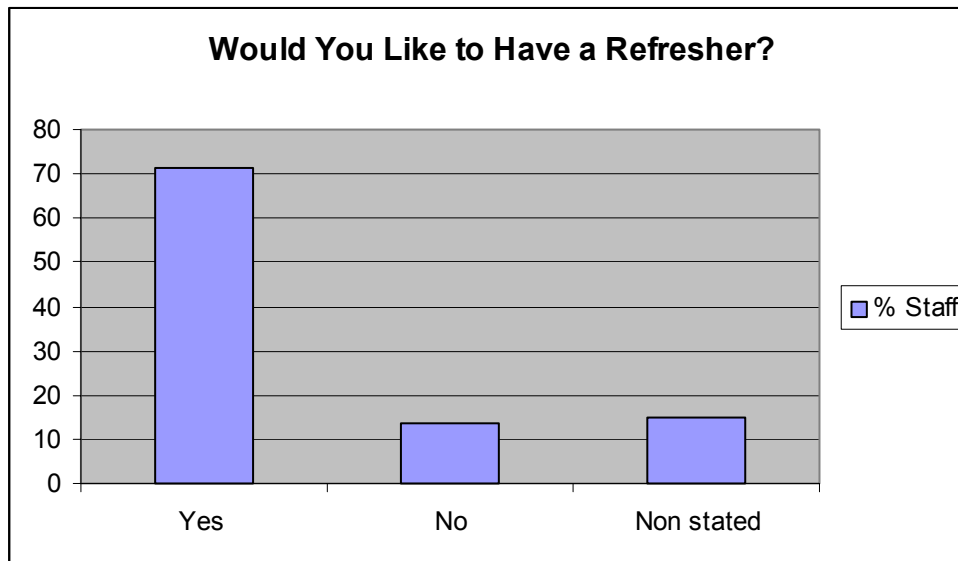
Would You Like to Have a Refresher?

Figure 8

Private & Voluntary Establishments

Ten out of the sixteen services studied in this audit were privately managed services (62.5%). 107 staff worked in those services. From this number 68.2% of questionnaires were returned (73).

From the 73 questionnaires that were returned, 53 were support workers (72.6%) and 11 held managerial posts (15.1%).

45.2% of the respondents indicated that they had been working in the current job for more than five years. A fourth of the respondents had been in the current post between three to four years (26%).

A large majority of the respondents stated that they had had training on challenging behaviour (79.4%) but about one fifth (20.5%) stated that they did not have any training (See Figure 9).
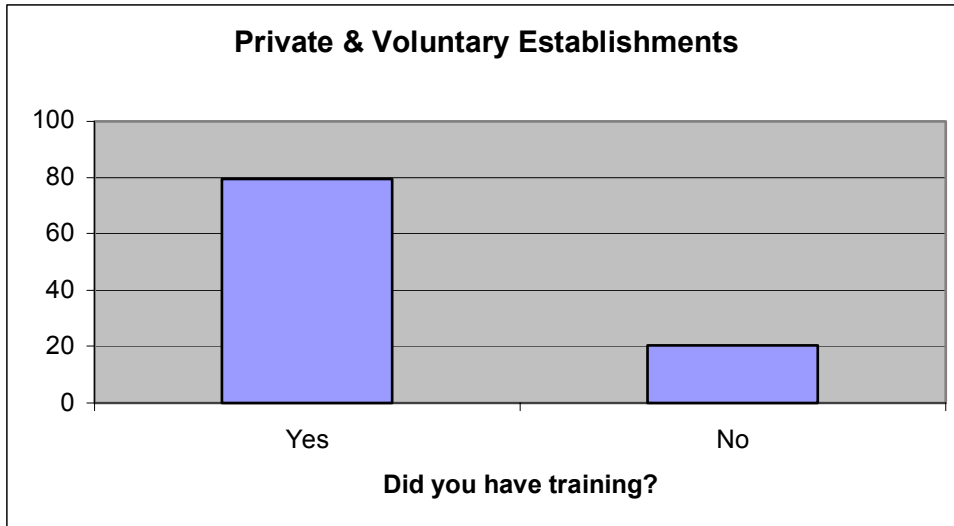
Figure 9

From those who received training, 69.9% received formal training and 15.1% received informal training. Slightly more than half of the respondents indicated that they had received training in the last two years (52.1%) whereas only 6.8% stated that they had received training over five years ago.

More than a third of the respondents stated that their training had been delivered in a day course (41.1%) while about a tenth (9.6%) received training in 2 day courses.

Nearly half of the respondents were interested in receiving refresher training (45.2%) and 26.6% felt that they did not need any more training.

74% of the respondents indicated the training provider. 68% stated that their own company provided the training and 30% stated that other agencies had trained them (e.g. ISS). With the exception of the ISS training the content of the other training packages predominantly covered the physical management of behaviours (e.g. crisis intervention, breakaway techniques).

The majority of the respondents felt 'confident' (42.5%) or 'very confident' (32.9%) in dealing with challenging behaviour. Less than one fifth of the respondents considered that they were 'somewhat confident' (17.8%) and 1.4% felt 'not confident' (See Figure 10). 53.8% of those indicating 'somewhat confident' or 'not confident' had not had any training and 23.1% had had training in the last two years or less and in three cases they had had training over five years ago (23.1%).

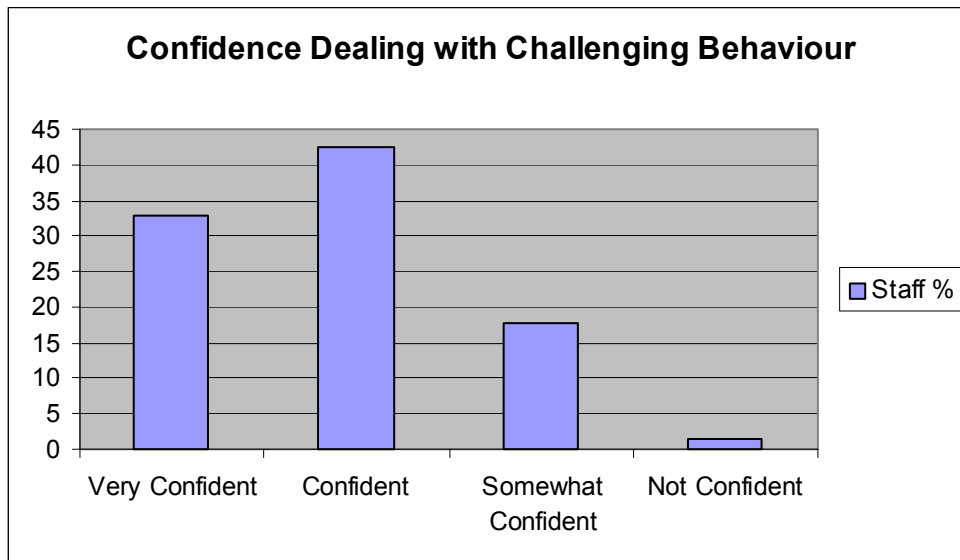**Confidence Dealing with Challenging Behaviour**

Figure 10

Between those who felt confident in dealing with CB, 64.7% had had training in the last 2 years and 23.5% had had training three years or more ago (See Figure 11). 27.4% had been more than five years in post and 52.9% had been between three to five years in post.

74

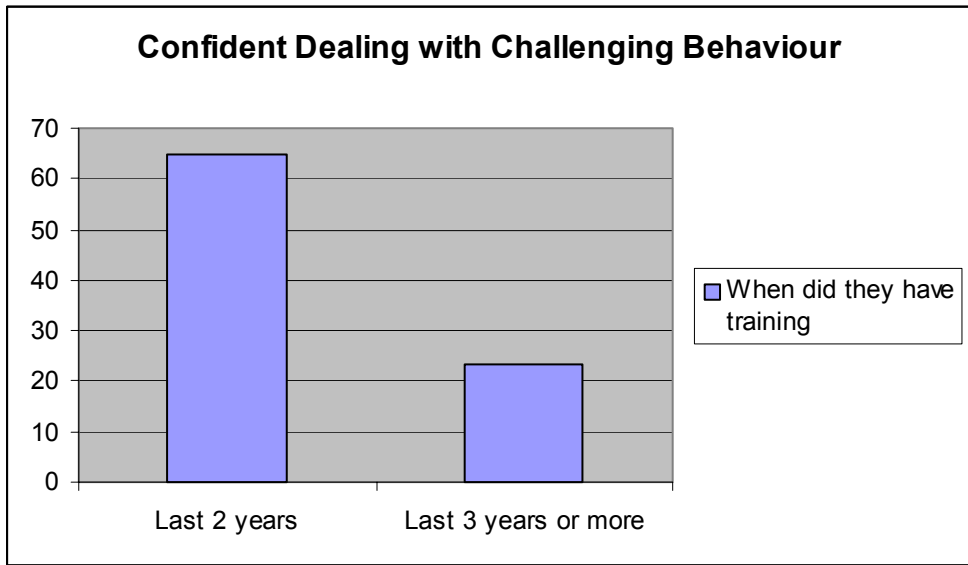## Confident Dealing with Challenging Behaviour

Figure 11

43.2% of those having training in the last two years had been in post three or more years. Of those, 48.6% (18 staff) did not want a refresher. There were three workers (8.1%) who did not feel totally confident and all had been in post for two years or more.

40% of those having had training more than two years ago were in post more than five years and 93.3% had been in training 3 years or more. From them (those having had training more than 2 years ago), 13.3% chose 'somewhat confident' to describe how they feel in dealing with CB and had been working in the same company for more than five years.

45.2% of those working in the private sector wanted a refresher (See Figure 12) and from those, 56.7% had had training in the last two years. Interestingly, 28.2% did not indicate if they wanted a refresher or not. From those not wanting a refresher (26.6%) 70% had had training in the last two years and all of them felt confident. From the remainder, 2 had had training 4 years ago and 4 did not indicate when they had had training.

Would You Like to Have a Refresher?
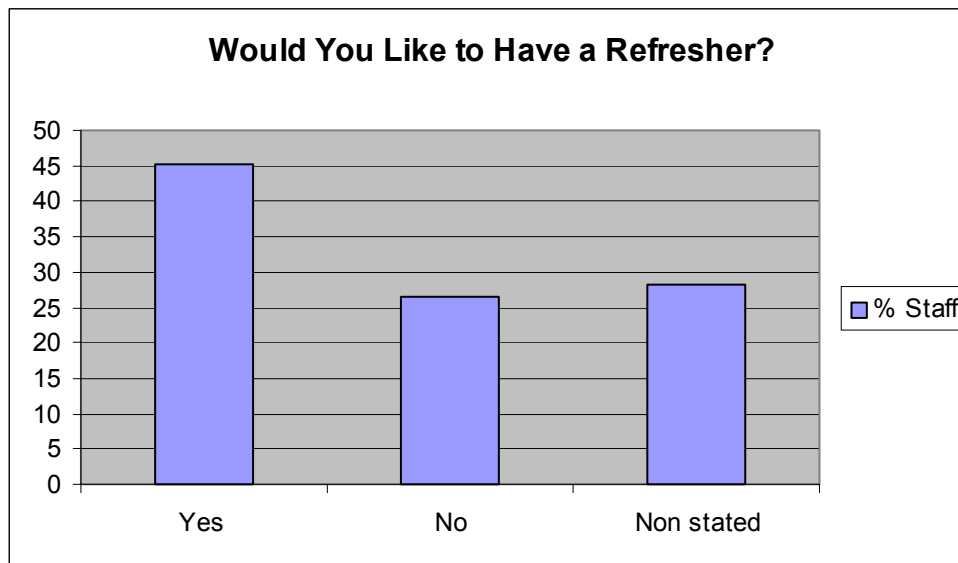
Figure 12

Summary of Results

A 66.2% response rate for the audit sample was considered a good result. The demographic data also indicated that the sample was representative of the staff working with adults with learning disabilities.

The data indicated that the workers were diverse in terms of their age. In relation to their experience in the current job, the attrition rates were low as one third of the respondents had more than 5 years of experience (30.6%) and more than half had 3 or more years of experience in their current job (55.1%).

The great majority of staff had had training to deal with challenging behaviour at some point in their careers. With regards to the continuity of training, the results indicated that there was ongoing access to training, as 31.9% of the respondents stated that they had received their training on challenging behaviour in the last year, and more than half had received their training between the last year and the last three years.

In most cases the training course received was provided in a formal way, being typically from one to three days. A significant majority of the respondents expressed interest in a refresher course although most of them felt confident in dealing with challenging behaviour. This indicated staff's awareness in terms of the need for continuous training and development.

Comparison between Social Services and Private Establishments

A number of findings arose when the two types of services where compared. In terms of questionnaire returns, the public service response was lower than the private (64.2% and 71.6% respectively). With regards to age, the biggest age group employed in the publicly managed services were younger than the private group (42-51 years versus plus 52 respectively). In relation to experience at work, the private sector had more people with more than five years of experience (45.2% versus 35%). The other more experienced segments (3 to 4 years of experience at work) were also superior in the private sector.

With regards to training in CB, publicly funded services provided more training than the private (92% and 79.4% respectively). Also, for the public services the training offered was more frequently delivered in a formal format (87.5% versus 69.9%). The training delivered in the last two years reached similar levels in both types of services.

From those who received training in the last two years a superior number of staff from publicly funded services had been in post 3 or more years (52.1% and 43.2% respectively). 20.8% of public services' staff did not want a refresher course compared to a 48.6% of private staff.

In general, there was more public services staff who wanted a refresher than private service staff (71.6% and 45.2% respectively) although they had received more training. Public services also offered longer training days (39.9% offering between 2 to 4 days) than private services (41.1% offering one training day).

Staff working in the private sector seemed to feel more confident in dealing with CB ('very confident' 32.9%, 'confident' 42.5%) than the public sector ('very confident' 7.9%, 'confident' 55.7%). However, from those staff who felt confident, a similar proportion of staff in both sectors had received training in the last two years. In terms of experienced staff receiving training and being confident, public sector establishments trained a larger proportion of staff with more than 5 years in post than the private sector (35% versus 27.4%) although the latter trained more staff with three to five years in post than the public (52,9% versus 31,2%).

There was a slightly larger proportion of staff working in the public sector who felt less confident in dealing with CB (27,3% and 17,8%). However, 53.8% of private staff who did not feel confident had no training compared to a 20.8% of public services staff.

Clinical and Service Implications

The data obtained from the survey seemed representative of the staff working with people with LD. The figures from the questionnaires indicated that there was a low attrition rate in the catchment area of the ISS and that the majority of the staff who responded to the questionnaire had had training on how to deal with

challenging behaviour. Another positive aspect of the findings was that one third of the respondents stated that they had had their training in the last year and more than half had had it between the last year and the last three years. Additionally, most of the respondents felt confident when dealing with CB.

The information gathered from publicly and privately funded organisations helped to create a more specific picture of the training needs of staff in the different settings. When both sectors were compared they indicated that publicly funded establishments employed younger people, provided more training and that this training reached more senior staff than the private sector. Furthermore, the publicly funded services also offered more training days and more formal training. A bigger proportion of staff employed by publicly funded services indicated an interest in having a refresher course than their colleagues from the private sector. However, when staff was asked about how confident they were in terms of dealing with CB, privately employed staff felt more confident.

In order to make sense of this data, several factors had to be considered. For instance, the publicly funded services were more stressful, larger establishments dealing with clients during the day. Furthermore, they were less able to retain staff, and staff received a training package which emphasised physical interventions in working with people with LD, but neglected psychological interventions. Whereas, the private and voluntary ones were smaller, more able to put in place tailored strategies (e.g. having the ISS team to provide specific skills) and provided more continuous care. On looking at the data and having these facts in mind, it is shown that staff working in smaller establishments and receiving more tailored training packages may feel more confident dealing with CB, although this training may be shorter and offered less often. In fact, in comparison with publicly funded services, most of the staff working in privately funded services who did not feel confident dealing with CB, had not received training.

The general data then appears to reinforce the idea expressed by previous reports in which it is likely that staff in smaller establishments, with tailored and on going training may feel more capable of dealing with CB. As a general implication for the IATS team, it would be advisable to promote tailored training packages in both sectors but especially in the publicly funded ones, making this training possible in partnership with other trainers and agencies (e.g. ACS or private trainers).

General Discussion

Not all the questionnaires were fully completed. For instance, questions that involved remembering dates such as question 5b ('How long ago did you have formal training?') were sometimes left blank. However, other questions that did not require memory also suffered from this problem. For example, about 15% of those workers employed by public establishments did not state whether they wanted a refresher course or not.

Question 5a asking if the worker had formal or informal training did not explain the meaning of 'formal' or 'informal' although the responses seemed to indicate that the respondents had an understanding of these types of training.

The more qualitative and open questions did not get much response. For instance, in question 7, where the 'somewhat confident' or 'not confident' box had been ticked the respondent was asked how confidence could be boosted. However, most of them agreed in the need for more training but without any indications of what this training should be. Perhaps a conversation with every staff involved would have allowed reflection on the lack of training of more psychological responses to CB and would have increased the awareness of this type of intervention.

Most of the training that staff seemed to have received seemed to have been delivered as a general training package which was always delivered in the same fashion. The present study was unable to asses the effectiveness of this training. It may be also difficult to establish what constitutes a 'good' training course (Clifton, Brown & Naylor, 1993). However, it was apparent that a number of staff did not feel confident in dealing with CB after having such training. In that way it is possible that the complexity of every case and individual made the content of the courses too general to be able to skill staff with specific strategies to tackle particular problems.

Due to the exploratory nature of the study, an individual analysis of every centre was not carried out. However, in line with government policies and the framework used for this research, the need for collaborative work with every service seems essential. Should funding become available to ISS, a more specific exploration of service user needs in every establishment would be crucial. The survey was covering establishments ranging from those employing 60 staff to those with only 8, therefore the circumstances of every service may be very diverse. Future research would need to allow for a more detailed examination of the different peculiarities of every service. An assessment of clients and carers' views towards professional intervention on CB would also be useful.

To summarise, further research involving the identification of every service would be needed before more definitive recommendations could be made. However, it seemed clear that psychological input in cooperation with the other agencies involved could be a significant contribution in responding to the challenging needs of people with LD. Increased psychological training input would be dependent upon increased resources. However, these findings proved relevant to the ISS team and it is hoped that they will support future service developments to address the continuing training needs of those working with people with LD.

References

Blunden, R. & Allen, D. (1987). <u>Facing the challenge; an ordinary life for people with learning difficulties and challenging behaviour</u>. Kings Fund.

British Psychological Society (2004<u>). Psychological interventions for severely challenging behaviours shown by people with learning disabilities. Clinical practice guidelines.</u> The British Psychological Society, Leicester.

Clifton, M., Brown, J. & Naylor, V. (1993). <u>Learning disabilities and challenging behaviour. Training staff to work with people with learning disabilities who exhibit challenging behaviour and may have an associated mental illness</u>. York; University of York.

Department of Health (1971<u>). White Paper: Better services for the mentally Handicapped</u>. HMSO, London.

Department of Health (1993). <u>Services for people with learning disabilities and challenging behaviour or mental health needs. The 'Mansell Report'</u>, HMSO, London.

Department of Health (1998) <u>Clinical governance policies</u>. Document extracted from website: http://www.cgsupport.nhs.uk/About_CG/default.asp

Department of Health (2001). <u>Valuing people: A new strategy for learning disability for the 21st century</u>. HMSO, London.

Emerson E., (2001<u>). C</u><u>hallenging behaviour: Analysis and intervention in people with severe intellectual disabilities</u>. Cambridge University Press, Cambridge.

Felce, D. & Perry, J. (1995). Quality of life: its definition and measurement. Research in Developmental Disabilities. 16, 51-74.

Greig, R. (2003). Changing the culture. British Journal of Learning Disabilities. 31, 150-152.

Holden, B. & Glitesen, J.P. (2006). A total population study of challenging behaviour in the county of Hedmark, Norway: Prevalence and risk markers. Research in Developmental Disabilities: A Multidisciplinary Journal. 27, 456-465.

Kushlick, A., Trower, P. & Dagnan, D. (1997). Applying cognitive-behavioural approaches to the carers of people with learning disabilities who display challenging behaviour. In (B.S.Kroese, D.Dagnan & K.Loumidis; Eds) Cognitive-behaviour therapy for people with learning disabilities. Routledge, London.

Mansell, J. (1993). Policy and policy implications. In (E. Emerson, P. McGill and J. Mansell; Eds). Severe learning disabilities and challenging behaviours. Chapman & Hall, London.

Sudman, S. & Bradburn, N.M. (2004). Asking Questions: A Practical Guide to Questionnaire Design. Wiley, Chichester.

Xenidis, K., Gratsa, A., Bouras, N., Hammond, R., Ditchfield, H., Holt, G., Martin, J. & Brooks, D. (2004). Psychiatric inpatient care for adults with intellectual disabilities: generic or specialist units?. Journal of Intellectual Disability Research. 48, 11-18.

Appendix 1

Letter to Managers and Staff

January 2007

To

Dear

Re: Staff Training Needs Audit on How to Deal with Challenging Behaviour of Learning Disabled Adults Referred to Intensive Support Service (ISS) in North Hertfordshire

Progress towards high standards of care in the community has highlighted the needs of people with learning disabilities who have challenging behaviour. The prevalence of challenging behaviour in people with learning disabilities indicate that in the UK 10-15% of such client group show a form of challenging behaviour (Holden & Glitesen, 2006). This problem can be particularly prevalent in clients with mental health problems (Xenidis, et al. 2004). The competence of local services working for people with learning disabilities to cope with these difficulties presents a challenge to good practice, person centred care and effective delivery of care. One key factor for services to be successful may be to be able to prevent challenging behaviour and manage it when it occurs. These objectives may be achieved if front line staff has the appropriate knowledge and skills to manage challenging behaviour. Therefore, the identification of training needs on challenging behaviour of paid carers working with people with learning disabilities may be a significant step to further improve the quality of care and be successful in addressing challenging behaviour in people with learning disabilities.

The Psychology Service in the Intensive Support Service (ISS)   , is conducting an audit to identify these training needs. It is hoped that by doing this, a collaborative training package can be put together in the future between interested parties. Anonymity of the participants will be safeguarded in any report that will be produced.

(Trainee Clinical Psychologist from the University of Hertfordshire) and   (Principal Clinical Psychologist) will be most grateful if you could participate in this audit.

Please find attached audit questionnaire for completion. If you have any queries please do not hesitate to contact us.

Yours sincerely,

Appendix 2

Questionnaire

Date:

Place of Work:

Job Title (optional):

Instructions

Please read the questions carefully and tick the appropriate box.

1. Sex

Male   [   ]
Female   [   ]

2. Age Group

18-31 years   [   ]
32-41 years   [   ]
42-51 years   [   ]
52+ years   [   ]

3. Ethnic Background

WHITE		BLACK OR BLACK BRITISH	

British		Caribbean	
Irish		African	
Any other white background		Any other black background	
MIXED		**CHINESE**	
White & Black Caribbean		Chinese	
White & Black African		**OTHER**	
White & Asian		Any other ethnic group	
Any other mixed background		**NOT STATED**	
ASIAN OR ASIAN BRITISH			
Indian			
Pakistani			
Bangladeshi			
Any other Asian background			

4. How long have you been working in your current job?

Less than 6 months   [   ]

 6-12 months   [   ]

1 year   [   ]

2 years   [   ]

3 years   [   ]

4 years   [   ]

5 years   [   ]

More than 5 years   [   ]

5. Have you had training on how to deal with challenging behaviours?

Yes   [   ]

No   [   ]

5a. If yes, was this training:

Formal (external trainer)   [   ]

Informal (in house)   [   ]

Please briefly describe informal training received and proceed to **question 6**.

5b. If you have had formal training, how long ago did you have this?

In the last year   [   ]
Last 2 years   [   ]
Last 3 years   [   ]

Last 4 years   [   ]

Last 5 years   [   ]

Over 5 years ago   [   ]

Can't remember   [   ]

5c. Please indicate:

Title/s of the Course/s:

Length of the Course/s:

Training Provider/s:

Can't remember the details of the course/s

                    [   ]

6. Would you like to have a refresher course?

Yes   [　]

No   [　]

7. How confident do you now feel dealing with challenging behaviours at your work place?

(a) Very confident   [　]
(b) Confident   [　]
(c) Somewhat confident [　]
(d) Not confident   [　]

If you have ticked **"c"** or **"d"**, how do you think your confidence could be boosted?

Many thanks for your help with this audit.

University of Hertfordshire

DClinPsych   Training Programme

Year 3

The Role of Cognition and Emotion in Psychosis and Paranoid Ideation:

A Literature Review

Gustavo Camino

Student Number: 05108129

October 2007

Word count: 5012

INTRODUCTION

This review attempts to offer an overview of the field of psychosis from a psychological perspective, with a specific focus on paranoid ideation and cognitive theories. A description of what cognitive theories are and the implications of adopting a psychological perspective into psychosis will be presented. An historic account of the concept of psychosis will also be summarised.   The nature of psychosis, relevant conceptualisations, models and empirical studies of psychosis and paranoid ideation will be discussed. Attention will be paid to the role of emotional processes in the formation and maintenance of psychotic symptoms and their relation to cognition. A final critical commentary will give an evaluation of current research into paranoid ideation and suggestions for future research will be given.

Cognitive theories of psychological disorders are based on the assumption that people who experience them develop thinking styles that prevents them adapting or adjusting to their actual life circumstances. These theories have been tested and adapted to a number of psychological problems such as depression and anxiety. According to the evidence available the same type of thought mechanisms seems to be operating through the different disorders. That is, certain types of thoughts or beliefs trigger anxiety or depressive mood and they are the primary cause of psychological suffering. As a consequence, therapeutic interventions addressing OCD, phobias, social anxiety and depression have been developed (Beck, 1995; Wells, 1997).

Cognitive interventions in psychiatric problems have been receiving a growing attention as their effectiveness and refinement have increased and the theoretical underpinnings have also been gaining more empirical support (Roth & Fonagy, 2005). Medication has traditionally been considered as the initial treatment option in psychosis, and biological theories have tended to dominate the field of psychosis during the past. Recently, this disorder has been receiving

more attention from psychologists in general, and has been the object of cognitive theorisation and therapeutic intervention.

A BRIEF HYSTORY OF PSYCHOSIS

Psychiatry as a discipline seems to have started formally in Germany at the beginning of the XIXth century. From its foundations to the present day, a biological approach to mental illness has been always dominant (Shorter, 1997). One of psychiatry's principal proponents, author Emil Kraepelin, announced that mental illness could only be studied by developing a comprehensive knowledge of pathological anatomy, symptomatology and aetiology (e.g. by examining a post-mortem brain or by studying the influence of genes in families). As the sophistication of neuropathology and aetiology at the time of Kraepelin was limited, he invested more energy in the classification of symptoms. He thought that mental illnesses were diseases that could be identified by the study of a differential symptomatology by which the identification of same illness in different subjects would lead to the same aetiology or brain abnormality. Following this rationale Kraepelin felt that psychosis (*dementia praecox* at the time) was a group of illnesses with poor outcomes and psychological degeneration. The various subtypes had in common its onset in adolescence or early adulthood. Patients experienced emotional disorders, stereotypical behaviour, attentional deficits, strange auditory and tactile perceptions, irrational beliefs and an irreversible deterioration of intellectual functions. The influence of Kraepelin in psychiatry has been considerable and his conceptualisation of psychosis has been maintained until the present time. Studies revealing that personal circumstances, social factors, gender, age or culture may be critical in shaping psychosis have not been able to alter the central tenets of the diagnostic criteria established by Kraepelin. There have been significant criticisms on the limitations of the Kraepelinian conceptualisation of psychosis. Bleuler, Jaspers and Scheider's contributions helped to highlight cognitive and emotional features of

the psychotic disorder, but their conceptual innovations only added more confusion into what psychosis actually is (Bentall, 2004). From the 1970's onwards, an impulse towards a reliable diagnose of the psychotic disorder led to the development of standardised instruments to assess the psychopathology and behaviour associated with psychiatric illness. However, psychiatrists have not been able to demonstrate that psychosis is a separable and discrete pathological entity, nor have they found a single biological marker to help diagnosis (Boyle, 2002; Bentall, 2004). Furthermore, the actual empirical evidence is not consistent with the view that psychosis is qualitatively different from neurosis (Goldberg, Benjamin & Creed, 1994) or even from normal experiences (Peters, Joseph & Garety, 1999). However, only in recent years has there been an interest in understanding psychotic symptoms (e.g delusions and hallucinations) from a psychological perspective. This has been encouraged by the empirical evidence that cognitive behavioural treatments can reduce distress, delusions and other psychotic symptoms (Freeman & Garety, 2003).

THE NATURE OF PSYCHOTIC SYMPTOMS

Biological models of psychosis describe the illness as the product of a brain disorder or more specifically as a biochemical imbalance. Thus, the experience of being psychotic would imply that delusions and hallucinations are not amenable to external influence or even internal psychological processes such as thought challenging or learning. Biological models also emphasise the idea that every mental disorder is categorically different, implying that the presence of certain symptoms would allow classification of people according to an independent number of pathological entities. However, as we have seen previously there are significant problems in the classification of psychosis as a biological disease because it does not respond to a clear pattern of brain or biochemical abnormalities. Furthermore, psychiatrists have only been able to infer pathological entities from behavioural observations. Despite the research

efforts invested using this approach, there is no solid evidence to support the idea that there is any specific biological factor associated to psychosis (Hall, Herrod, Carpenter & McKenna, 1994; op cit in Fowler, Garety & Kuiper, 2005).

From a more psychological point of view, delusional phenomena rather than being just an epiphenomenon, represent '*points on continua function*' (Strauss, 1969; op cit, Kingdon & Turkington, 1995, p.13). In other words, psychotic symptoms belong within the dimension of normal experience. They may be distortions of normal thought processes rather than expressions of a distinct neurological alteration. Clinical evidence supports the idea of a functional continuum. For instance, the pseudo-hallucinations and overvalued ideas describe symptoms that are '*neither normal or delusional but somewhere in between*' (Kingdon & Turkington, 1995, p.15).

Within the psychological perspective there is also a significant available source of data related to the idea that normal experience can blend into '*abnormality*'. In other words, psychotic symptoms can be observed in normal individuals (Kingdon & Turkington, 1995, p.16). Examples of normal people having psychotic symptoms have been reported when people experience food and water deprivation or sleep deprivation (Oswald, 1974), sensory deprivation (Vernon, 1963), solitary confinement (Grassian, 1983) and hostage situations (Siegel, 1984, all cited in Kingdon & Turkington, 1995, p.17). Therefore, it would appear that a continuum of experience would have at one extreme psychotic symptoms that correlate with extreme circumstances (variations and degrees of deprivation or stress).

In a study of people with schizoid personality under low levels of sensory deprivation Leff (1968; op cit in Kingdon & Turkington, 1995, p.19) claimed that the participants experienced significant hallucinatory experiences. Leff suggested that the experience of normal people with schizoid personality traits overlaps with those of psychotic patients.

The experience of psychotic symptoms also seems to change over time in the same subject. In fact, a longitudinal study of people with psychosis reveals that different patterns of symptoms emerge at different times (Brockington & Meltzer, 1982). It would be unlikely that a single biochemical alteration could produce such a richness of experience and symptomatology.

Although from a cognitive point of view psychosis can be seen as a problem related to thought alterations, it also seems associated with emotional and social difficulties. Consequently, people with psychosis typically present with very complex and heterogeneous predicaments (Fowler, Garety & Kuiper, 2005).

In summary, it has been suggested by Strauss (1969; op cit in Kingdon & Turkington, 1995, p.22) that delusions and normal thoughts, hallucinations and imagination differ in grade and they are not categorically different. The findings of recent research constructs psychotic disorders as '*an heterogeneous group of disorders which lie on a continuum with normality*' (Claridge, 1985; Crow, 1986; op cit in Fowler, Garety & Kuiper, 2005, p.39). The consequences of assuming a cognitive model in psychosis could have important therapeutic consequences.

COGNITIVE CONCEPTUALISATIONS OF PSYCHOSIS

According to the DSMIV (1995) the term 'psychotic' has received many definitions but none of them have received unanimous support. However, a central characteristic of any psychotic disturbance is related to the presence of delusions or hallucinations. However, psychiatrists have not yet investigated specific symptoms separately from the category of schizophrenia. In cognitive terms, psychotic symptoms are expressions of some form of thought disruption (Kingdon & Turkington, 1995). Therefore, psychotic patients would show a variety of alterations of thinking patterns. From a traditional medical approach,

the content of delusions in psychosis is only the expression of individual differences in a brain disease. However, it has been shown that the same patient may show a variety of delusional content (Fowler, Garety & Kuiper, 2005). From a cognitive perspective the conviction that patients show about their beliefs, their level of preoccupation about them and the level of emotional distress related to the beliefs may be relevant dimensions to consider when studying or treating psychotic patients.

Cognitive Models of Psychosis

There are a number of cognitive models that attempt to explain different aspects of the psychotic experience. For instance, Maher (1988) offered a model to explain delusions as normal explanations of perceptual abnormalities. Emotional disturbance and depression are common problems of people with psychosis. Traditionally, psychoanalytic theorists placed emotional aspects of the experience of psychosis as the primary cause of psychotic symptoms. Although this idea has not been completely demonstrated, there is reasonable evidence to suggest that adverse experiences in childhood may be associated with the later development of psychotic syndromes (Watt, Grubb & Erlenmeyer-Kimling, 1982; op cit in Fowler, Garety & Kuiper, 2005, p.63). In line with the previous idea, stress-vulnerability models have also noted that there may be transactions between biological factors and dysfunctional cognitive structures, or emotional schemata. These may arise from adaptation to adverse life predicaments through social-emotional learning (Ciompi, 1988; op cit in Fowler, Garety & Kuiper, 2005, p.63; Morrison, Frame & Larkin; 2003).

Emotion and Psychosis

Current views about emotion and psychosis fall into two types. First, some types of negative emotions may arise as the consequence of experiencing the

psychotic illness (e.g. 'my wife wants to poison me', therefore the emotional distress could be anger or fear of death). Second, certain types of psychotic symptoms may arise as the consequence of emotional disturbance (e.g. childhood trauma). With regards to the second view, there are two competing theories. The first theory suggests that psychotic symptoms are associated with abnormal attention to threat-related stimuli (Bentall & Kaney, 1989; op cit. in Fowler, Garety & Kuiper, 2005, p.65). Such biases show a tendency to attribute negative outcomes to external causes. Bentall, Kinderman & Kaney (1994; op cit. in Fowler, Garety & Kuiper, 2005, p.65) have suggested that psychotic symptoms may reflect the product of the way an individual may seek to process information, moment by moment, to defend against threats to self-esteem (e.g. a student getting a low mark and attributing it to staff being against him).

The second theory is that the emotional processing characteristic of delusions are akin to those involved in interpersonal anxiety variables (e.g. an anxious person interpreting a blank face from a stranger as a sign of hostility). Fowler, Garety & Kuiper (2005) suggest that anxiety is central to the formation of delusional ideation and not the protection of the self-esteem. They also suggest that although anxiety may be central, there are also a number of contributing variables. Therefore, they recommend adopting a multifactorial approach in the study of psychosis.

TRAUMA AND PSYCHOSIS

Studies of risk factors or precursors of the development of psychosis have mainly concentrated upon genetic and neurological factors and not emotional processes. However, some studies have found that poor social adjustment during adolescent years and the presence of social anxiety may predict the onset of psychosis later in adulthood (Kugelmass, Faber, Ingraham, Frekel, Nathan, Mirsky & Shakhar, 1995; Malmberg, Lewis, David & Allebeck, 1998). Krabbendam, Janssen, Bijl, Vollebergh & Van Os (2002) reported in an

epidemiological study that high neuroticism and low self-esteem predicted the first ever onset of psychotic symptoms. Tien & Eaton (1992) from an earlier epidemiological study found that the presence of anxiety one-year before the onset of positive symptoms of psychosis was a risk factor. It has been shown in these studies that other psychological disturbances of an emotional nature seem to precede the initiation of psychotic symptoms, without being linked necessarily with external life events. Nevertheless, the importance of emotional alterations in the development of psychosis has been considered within the context of trauma (Morrison, Frame & Larkin, 2003). A number of researchers have investigated the role of several traumatic experiences in the development of psychosis. For instance, it has been identified that psychiatric populations report a higher incidence of trauma previous to the development of psychiatric illness when they are compared with normal subjects (e.g. Davidson & Smith, 1990). In studies where psychotic patients were asked to identify the triggers of auditory hallucinations, researchers found that in most participants the onset of the hallucinations was preceded by an activating memory of a traumatic event or an actual traumatic event (Honig, Romme, Ensink, Escher, Pennings & deVries, 1998). More specifically, studies have explored the association between sexual abuse and psychosis (Larkin & Morrison, 2006; Read, 1997 for a review) and such findings suggest that a significant number of adult psychotic patients have experienced childhood sexual abuse (e.g. Darvez-Bamez, Lemperiere, Degiovanni, & Gaillard, 1995; Ross, Anderson & Clark, 1994). High rates of sexual delusions have been found in incest survivors diagnosed psychotic (Read, van Os, Morrison and Ross, 2005). Other traumatic events seem to be present in the biographies of psychotic patients. In fact, Shaw, McFarlane, Bookless & Air (2002) found that his entire sample reported having experienced traumatic events that met DSMIII-R stressor criteria. The presence of trauma preceding psychotic symptoms has been observed in a range of traumatic life events or stressors. For example, Grimby (1993) reported that 82% of elderly participants experienced psychotic symptoms one month after bereavement. Further evidence of the importance of trauma as a precursor of psychosis can be found

when concentration-camp and war survivors have been studied.(von Baeyer, 1977; Beebe, 1975; Kinzie & Boenhlein, 1989).

Other variables that may be related to emotional development have also been identified as influential in the formation of psychotic symptoms. Cultural and social factors have been found to be present amongst psychotic immigrants when compared with the native population (Bhugra, Leff, Mallet, Der, Corridan & Rudge, 1997). It has been suggested that these variables reflecting social disadvantage and isolation may engender emotional distress and negative attributions towards other people, which make people from other cultures vulnerable to developing psychotic symptoms (Freeman & Garety, 2004a).

RESEARCH ON PARANOID DELUSIONS

Cognitive Studies of Delusional Ideation

Delusions are defined as false beliefs based on incorrect inferences about external reality that are firmly sustained despite what almost everyone of the person's cultural background believe (DSM-IV, 1995). Cognitive theories provide a useful contribution to the discussion about the nature of delusions and hallucinations. In fact, these theories have a number of important clinical implications. Many cognitive strategies used for people with psychosis seek to modify delusional beliefs and offer alternative interpretations for hallucinatory experience and have been founded on these types of formulation. However, it is important to note that cognitive theories seem to underestimate emotional factors. These may include emotional difficulties (e.g. social anxiety, trauma, adverse life events, and depression). Due to the complexity of delusional thoughts, it has been suggested that the psychological approach in psychosis would be more comprehensive if it permitted the integration of those competing

models that contribute to the formation of delusions (Garety & Hemsley, 1994; op cit in Fowler, Garety & Kuiper, 2005, p.56).

DELUSIONAL THOUGHTS AND NORMALITY

A number of studies indicate that between 10-25% of the population in the UK have experienced persecutory thoughts at some point in their lives (Bentall, 2004; Freeman, 2007). In a review of 15 studies Freeman (2006) found that the rate of delusional ideation in the normal population is higher than that in people with psychosis. In that case it seems that such thoughts may be as common as anxious or depressed thoughts and that they may be the same phenomena as observed in clinical settings (Freeman & Garety, 2004b). From a psychological point of view, paranoid thoughts can be present in anybody's mental life. For most of us, suspicious thoughts are fleeting and do not cause preoccupation, distress, or significant interference in social activities. For some, however, they can be a problem, and in the strongest form these thoughts may be related to persecutory delusions.

Persecutory delusions have been considered as the second most common symptom of psychosis, occurring in almost 50% of cases (Sartorious, Jablensky, Korten, Ernberg, Ander, Cooper & Day, 1986). According to the DSMIV there is a consensus that persecutory delusions are the most frequently encountered presentation of delusional disorder. They can also occur in many other psychiatric and medical disorders (e.g.Cutting, 1987).

Nonetheless, ideas of a persecutory nature may occur in non-clinical populations. A questionnaire survey of delusional ideation in approximately 500 French primary care attendees with no psychiatric or psychological disorder found that 25% had thoughts about being persecuted in some way and 10% endorsed items

concerning a conspiracy against them (Verdoux, Maurice-Tison, Gay, Van Os, Salamon & Bourgeois, 1998).

CLINICAL CONSEQUENCES

Appelbaum, Robbins & Roth (1999; op cit. in Freeman & Garety, 2004a, p.4) found that patients with persecutory delusions experienced high levels of negative affect and were more likely to act in response to those delusions. Other studies have suggested that the presence of persecutory delusions was the strongest predictor of hospital admission (Castle, Phelan, Wessely & Murray, 1994).

Medical studies have analysed treatment outcomes in psychosis without paying much attention to the specific effect on persecutory delusions (Freeman & Garety, 2004a). Typically, the randomised control trials that have been carried out have focused their interest on the benefits of drugs on positive symptoms scores. These studies reveal that 60% respond to neuroleptics (Marder, 1996) whilst 80% to 85% do not relapse after one year (Kane, 1996). Newer drugs such as clozapine or risperidone have been used for medication-resistant patients. However, trials seem to show that no more than 30% may benefit from them (Kane, Honigfield, Singer & Meltzer, 1988) and those patients who responded to the treatments showed little improvement in their overall functioning (Chakos, Lieberman, Hoffman, Bradford & Sheitman, 2001).

There have been recent psychological studies showing efficacy of CBT for psychosis in randomised control trials (Drury, Birchwood, Cochrane & MacMillan, 1996; Sensky, Turkington, Kingdon, Scott, Scott, Siddle, O'Carroll & Barnes, 2000). In these studies about half of medication-resistant patients responded to psychological therapy and symptoms did not remit completely (Kuipers, Garety, Fowler, Dunn, Bebbington, Freeman & Hadley, 1997).

In terms of how life experiences may lead to psychotic symptoms, clinicians have observed that is frequent to find that delusions reflect past traumatic experiences in deluded clients (Fowler, 1997). Such observations may be of value for formulation and intervention purposes.

PSYCHOLOGICAL MODELS OF PARANOID DELUSIONS

Paranoid delusions are delusions in which the main theme is that the person believes s/he is under threat (physically or morally), persecuted or conspired against (DSM-VI, 1995). Within the psychological literature, the last decade has seen how paranoid ideation has increasingly become a topic of study of its own, instead of remaining exclusively as a symptom of schizophrenia (Freeman, 2007). Although psychologists have speculated about the nature of paranoid delusions for some time, only recently they have started to design empirical studies to test these ideas (Freeman & Garety, 2004a). The following are a number of psychological models that have been developed to explain paranoid delusions.

Reasoning Biases

The literature describes that individuals with delusions tend to "jump to conclusions" (JTC) very often (McCormick & Broekema, 1978). Experimental studies have confirmed this observation on several occasions (Garety & Hemsley, 1994; Dudley, John, Young & Over, 1997; Fear & Healy, 1997). Garety and Freeman (1999) explain this phenomenon by suggesting that people with delusions tend to seek less information before reaching a conclusion or decision. Such a pattern may contribute to the formation of delusional beliefs. However, only a proportion of individuals with delusions (40-70%) show clear evidence that they need less information to reach a conclusion when they perform in

probabilistic reasoning tasks. Furthermore, Van Dael, Versmissen, Janssen, Myin-Germeys, van Os & Krabbendam (2006) informed that non-clinical individuals with high delusional ideation did not show JTC.

Theory of Mind

Frith (1992) hypothesised that psychotic symptoms reflect deficits in a person's ability to understand mental states in the self or others. He argued that delusions of persecution develop because the person who suffers from them is not able to make valid attempts at making inferences of other people's mental states. For example, he or she would be unable to fully understand the motivations or intentions of others and that would lead to thinking that some people may be conspiring against him or her. There is experimental evidence (Corcoran, Mercer & Frith, 1995) suggesting that theory of mind difficulties may be associated with negative symptoms and with persecutory delusions. However, such a result has not been replicated (Frith, 2004; Walston, Blennerhassett & Charlton, 2000).

Stress-Vulnerability models

Stress-vulnerability models of psychosis integrate variables that may interact with each other thus potentiating their effects when both are present. Vulnerability may occur due to the co-occurrence of genetic factors, congenital difficulties or early experiences. Stress may be caused by life events or high levels of expressed emotions in the family environment. Evidence has been found to support this model (Bebbington, Wilkings, Jones, Forester, Murray, Toone & Lewis, 1993; Kuipers, 1994). Whilst this model combines biological and psychological factors in the development of psychosis, it does not offer a specific process by which paranoid delusions are formed.

Delusions-as-Defence

Individuals with persecutory delusions have been hypothesised as maintaining normal levels of self-esteem because they think that delusions protect them against underlying low self-esteem reaching their consciousness (Bentall, 1994). Kinderman & Bentall (1997) propose that paranoid ideation is the product of an attempt to minimise discrepancies between how patients see themselves and how they would like to be. The mechanism that allows them to create this equilibrium is the developing of external personal attributions for negative events. In simple words, this means that people presenting with paranoid delusions may blame others or their circumstances rather than themselves. Empirical support of this theory has been contested by Garety & Freeman (1999).

Multifactorial model

Freeman & Garety (2004a) suggest that from a psychological point of view, contemporary theories of the delusional experience have received support to the extent that they may address partial aspects of the persecutory delusion. They claim that the evidence indicates that the formation and maintenance of persecutory delusions cannot be understood when a single causal mechanism is contemplated but rather when a multifactorial perspective is adopted (e.g. including representational ability, anomalous experiences, attributional defences and reasoning styles). They also suggest the addition of other contributing variables, such the direct role of anxiety the avoidance of negative emotions (safety behaviours) and worries, which they consider neglected by researchers in this area of study. Persecutory ideas are constructed as explanations of experience and external events are incorporated to make sense of internal states (Freeman, Garety, Kuipers, Fowler & Bebbington, 2002). As in the stress-vulnerability model, the multifactorial model incorporates genetic, biological, psychological and social variables as precipitants of delusions. Studies devoted to the quantification of the influence of anxiety and safety behaviours on paranoid

ideation have confirmed that they are linked to paranoid delusions (Freeman, Dunn, Garety, Bebbington, Slater & Kuipers, 2005; Fowler, Freeman, Smith, Kuipers, Bebbington & Bashfoth, 2006; Freeman, Garety & Kuipers, 2001; Freeman & Garety, 1999).

CRITICAL COMMENTARY OF FINDINGS AND FUTURE AREAS OF RESEARCH

In contrast to the dominant medicalised view that has discouraged psychological research, a growing body of experimental evidence is being found and theoretical mechanisms are being proposed to account for psychotic symptoms from a psychological approach. Despite the influential foundations of Kraepelin in psychiatry and mental health, and constructing psychosis as an expression of a biological illness not amenable to psychological therapy, psychologists have significantly challenged this fundamental tenet by concentrating their efforts on the study symptoms instead of discreet pathological categories. The resulting evidence seems to weaken the distinction between neurosis and psychosis, and normality and psychosis. A large number of empirical studies suggest that delusions are associated with psychological processes and cognitive therapy has proved to be efficacious with psychotic symptoms (Bentall, 2004; Gould, Mueser, Bolton, Mays & Goff, 2001).

An important area that has been neglected is the role of emotions in psychosis. It may be possible that single-cause research strategies have been an obstacle in considering the importance of emotion in psychosis (Freeman & Garety, 2003). Research on trauma and anxiety has shed some light on the early precursors and factors influencing the onset of psychotic symptoms, however, more specific studies are needed to reveal the connection between emotional processes and paranoid ideation. Nevertheless, the findings are consistent with the concept of

emotional processes playing a causal and maintaining role in cases of delusions (Freeman & Garety, 2004a).

When patients presenting paranoid delusions are investigated, differentiation is not made between individuals reporting unfounded persecutory ideation and individuals reporting genuine persecutory events. This is a significant weakness which may be the product of the methodologies employed (e.g. surveys, self-reports, questionnaires). Other methodologies could assist in complementing this work. Virtual reality –computer-generated environments- may provide an environment where suspicious thoughts can be elicited by neutral virtual reality individuals (Freeman & Garety, 2004b). Furthermore, the evidence presented suggests that the study of paranoid delusions with normal subjects may be able to contribute to the understanding of clinically diagnosed people (Freeman, 2007). Some studies involving normal subjects experiencing a virtual reality scene showed that anxiety and personal sensitivity were associated with suspiciousness and higher levels of paranoia in day to day life were associated with being suspicious in the virtual reality setting. This confirmed that studying suspicion in virtual reality has the potential to inform our understanding of unfounded persecutory thoughts in non-clinical and clinical populations. Whilst persecutory delusions are explicable in terms of normal psychological processes, according to the data available, no single factor is likely to account for paranoia. This is partly because the experience is complex, with many different elements needing to be explained. It is likely that different factors are involved in causing each dimension, and given this multidimensional nature, the question 'What are the reasons that some people become preoccupied and distressed by suspicious thoughts?' may include a number of factors. Delusions can be conceptualised as individuals' attempts to explain and make sense of their experiences (Maher, 1988). There is evidence indicating that delusions can occur in the context of emotional distress. However, it has also been pointed out that delusions conceal emotional distress.

Anxious thoughts are truly persecutory when they contain the idea that harm is intended by the perpetrator. The idea of threat may be related to attribution of intent. A lack of trust in others and an unwillingness to discuss emotions or social isolation will mean that individuals' ideas about threat and intent are not shared with others thus preventing disconfirmation of the persecutory ideas. Furthermore, individuals' relationships to the persecutors may be important in determining emotional reactions; beliefs that the persecutor is powerful have been found to be associated with higher level of depression (Birchwood, Meaden, Trower, Gilbert & Plaistow, 2000; Freeman, Garety & Kuipers, 2001). Therefore, a conceptualisation of paranoia may imply that such experience is influenced by emotional states, attributional and reasoning biases.

Although the virtual reality research on paranoid delusion has shown to be a promising line of research, the studies have been conducted only with normal subjects (Freeman & Garety, 2004b). In order to establish a closer link between normal and abnormal persecutory thoughts when using this methodology, psychotic and non-psychotic participants should be included in the same study. In these studies the inclusion of non-psychotic participants with clinical levels of anxiety could help to reveal patterns of delusional thinking in clinically anxious individuals. From a cognitive point of view, it is felt that Bentall and Freeman and Garety´s theories could both contribute to reflect a more realistic portrait of the formation of delusional thinking, especially when the literature about trauma in psychosis is considered. Therefore, it seems reasonable to hypothesise that clinically anxious patients who present higher scores in paranoia questionnaires and delusional patients may share traumatic experiences or stressful life events as precursors of their own predicaments.

The content of persecutory delusions has not been documented in detail. This aspect of the delusional system may help to understand the role of the emotional response as emotions are known to be associated with particular cognitive systems. A suggested future line of research would be the investigation of

change in delusion content following emotional change (Freeman & Garety, 2004a).

With regards to the provision of psychological therapies informed by empirically tested models, the growing demand of CBT as a therapeutic option indicates that theory-driven trials and interventions have to be considered. In terms of clinical implications, relevant technical advances are starting to be linked with the logic of cognitive models. Freeman & Garety (2004a) support a confirmatory reasoning style for individuals with delusions. This is where a focus in therapy should be on "making sense of psychosis", rather than challenging the delusion directly via disconfirmatory evidence. This is also a more collaborative approach.

In the UK clinical psychologists have developed interventions for patients with psychosis. However, these treatments have always been accompanied by conventional drugs. Due to the pharmaceutical interests influencing the NHS it is not likely that patients may benefit from promising research on pure psychological interventions in psychosis (Bentall, 2007).

REFERENCES

American Psychiatric Association (1994). <u>Diagnostic and statistical manual of Mental Disorders. DSM-IV</u>. Washington: APA.

Appelbaum, P. S., Robbins, P.C., & Roth, L.H. (1999). Dimensional approach to delusions: Comparison across types and diagnoses. <u>American Journal of Psychiatry</u>, 156, 1938-1943.

Bebbington, P.E., Wilkins, S., Jones, P., Forester, A., Murray, R.M., Toone, B., & Lewis, S. (1993). Life events and psychosis: Results from the Camberwell Collaborative Psychosis Study. <u>British Journal of Psychiatry</u>, 162, 72-79.

Beck, J.S. (1995). <u>Cognitive therapy: basis and beyond</u>. New York: Guildford Press.

Beebe, G. W. (1975). Follow-up studies of World War II and Korean War prisoners. <u>American Journal of Epidemiology</u>, 101, 400–402.

Bentall, R.P. (1994) Cognitive biases and abnormal beliefs: towards a model of persecutory delusions. In A. S. David & J. Cutting (Eds.) <u>The Neurpsychology of Schizophrenia</u> (pp.337-360). Hove, UK: Lawrence Erlbaum Associates Ltd.

Bentall, R.P. (2004). <u>Madness Explained: Psychosis and Human Nature</u>. London: Penguin Books.

Bentall, R.P. (2007). Maximum kindness, minimum drugs. <u>The Psychologist</u>. 20, 658.

Bentall, R.P. & Kaney, S. (1989). Content specific information processing and persecutory delusions: an investigation using the Emotional Stroop Test. British Journal of Medical Psychology, 62, 355-364.

Bentall, R.P., Kinderman, P. & Kaney, S. (1994). The Self, attributional processes and abnormal beliefs: towards a model of persecutory delusions. Behaviour Research and Therapy. 32, 331-341.

Bhugra, D., Leff, J., Mallet, R., Der, G., Corridan, B. & Rudge, S. (1997). Incidence and outcome of schizophrenia in Whites. African-Caribbeans and Asians in London. Psychological Medicine. 27, 791-798.

Birchwood, M., Meaden, A., Trower, P., Gilbert, P. & Plaistow, J. (2000). The Power and Omnipotence of Voices: Subordination and Entrapment by Voices and Significant Others. Psychological Medicine. 30, 337-344.

Boyle, M. (2002). Schizophrenia: A scientific delusion? London: Routledge.

Brockington, I.F. & Meltzer, H.Y. (1982). Documenting an episode of schizophrenic illness. Schizophrenia Bulletin, 8, 485-492.

Castle, D.J., Phelan, M., Wessely, S., & Murray, R.M. (1994). Which patients with non-affective functional psychosis are not admitted at first psychiatric contact? British Journal of Psychiatry, 165, 101-106.

Chakos, M., Lieberman, J., Hoffman, E., Bradford, D., & Sheitman, B. (2001). Effectiveness of second-generation antipsychotics in patients with treatment-resistant schizophrenia: A review and meta-analysis of randomised trials. American Journal of Psychiatry, 158, 518-526.

Ciompi, L. (1988). The Psyche and Schizophrenia. Cambridge, MA; Harvard University Press.

Claridge, G. (1985). Origins of Mental Illness. Oxford: Blackwell.

Corcoran, R., Mercer, G., & Frith,C.D., (1995). Schizophrenia, symptomatology and social inference: Investigating 'theory of mind' in people with schizophrenia. Schizophrenia Research, 17, 5-13.

Crow, T.J. (1986). The continuum of psychosis and its implication for the structure of the gene. British Journal of Psychiatry.149, 419-429.

Cutting, J. (1987). The phenomenology of acute organic psicosis. British Journal of Psychiatry, 151, 324-332.

Darvez-Bamez, J. M., Lemperiere, T., Degiovanni, A., & Gaillard, P. (1995). Sexual victimisation in women with schizophrenia and bi-polar disorder. Social Psychiatry and Psychiatric Epidemiology. 32, 78–84.

Davidson, J., & Smith, R. (1990). Traumatic experience in psychiatric outpatients. Journal of Traumatic Stress. 3, 459–475.

Drury, V., Birchwood, M., Cochrane, R., & MacMillan, F. (1996). Cognitive therapy and recovery from acute psychosis: A controlled trial. I. Impact on psychotic symptoms. British Journal of Psychiatry. 169, 593-601.

Dudley, R.E., John, C.H., Young, A, W., & Over, D.E. (1997). Normal and abnormal reasoning in people with delusions. British Journal of Clinical Psychology. 36, 243-258.

Fear, C.F., & Healy, D. (1997). Probabilistic reasoning in obsessive-compulsive and delusional disorders. Psychological Medicine. 27, 199-208.

Fowler, D. (1997). Direct and indirect links between the content of psychotic symptoms and past traumatic experience: Evidence from therapists reports from the London-East Anglia study of cognitive behaviour therapy for psychosis. Paper presented at the British Association of Behavioural and Cognitive Psychotherapy Annual Conference, Southport, July.

Fowler, D., Garety, P. & Kuipers, E. (2005). Cognitive Behaviour Therapy for Psychosis. Chichester: Wiley.

Fowler, D., Freeman, D., Smith, B., Kuipers, E., Bebbington, P., & Bashforth, H. (2006). The Brief Core Schema Scales (BCSS): Psychometric properties and associations with paranoia and grandiosity in non-clinical and psychosis samples. Psychological Medicine. 36, 749−759.

Freeman, D. (2006). Delusions in the non-clinical population. Current Psychiatry Reports. 8, 191−204.

Freeman, D. (2007). Suspicious minds: The psychology of persecutory delusions. Clinical Psychology Review. 27, 425-457.

Freeman, D. & Garety, P.A. (1999). Worry, worry processes and dimensions of delusions: An exploratory investigation of a role for anxiety processes in the maintenance of delusional distress. Behavioural & Cognitive Psychotherapy. 27, 47-62.

Freeman, D. & Garety, P.A. (2003). Connecting neurosis and psychosis: The direct influence of emotion on delusions and hallucinations. Behaviour Research and Therapy. 41, 923-947.

Freeman, D. & Garety, P.A. (2004a). <u>Paranoia: The Psychology of Persecutory Delusions</u>. Hove: Psychology Press.

Freeman, D. & Garety, P.A. (2004b). Bats amongst birds. <u>The Psychologist</u>. 11, 642-645.

Freeman, D., Dunn, G., Garety, P. A., Bebbington, P., Slater, M., Kuipers, E., . (2005). The psychology of persecutory ideation I: A questionnaire study. <u>Journal of Nervous and Mental Disease</u>. 193, 302−308.

Freeman, D., Garety, P. A., & Kuipers, E., (2001). Persecutory delusions: Developing understanding of belief maintenance and emotional distress. <u>Psychological Medicine.</u> 31, 1293-1306.

Freeman, D., Garety, P. A., Kuipers, E., Fowler, D., & Bebbington, P. E. (2002). A cognitive model of persecutory delusions. <u>British Journal of Clinical Psychology</u>. 41, 331-347.

Frith, C.D. (1992). <u>The Cognitive Neuropsychology of Schizophrenia</u>. Hove: Lawrence Erlbaum.

Frith, C. D. (2004). Schizophrenia and theory of mind. <u>Psychological Medicine</u>. 34, 385−389.

Garety, P.A., & Freeman, D. (1999). Cognitive approaches to delusions: A critical review of theories and evidence. <u>British Journal of Clinical Psychology</u>. 38, 113-154.

Garety, P.A., & Hemsley, D.R. (1994). <u>Delusions: Investigations into the Psychology of Delusional Reasoning</u>. Oxford: Oxford University Press.

Goldberg, D., Benjamin, S,. & Creed, F. (1994). Psychiatry in medical practice. Second Edition. London: Routledge.

Gould, R. A., Mueser, K. T., Bolton, E., Mays, V., & Goff, D. (2001). Cognitive therapy for psychosis in schizophrenia. An effect size analysis. Schizophrenia Research. 48, 335-342.

Grassian, G. (1983). Psychopathology of solitary confinement. American Journal of Psychiatry. 140, 1450-1454.

Grimby, A. (1993). Bereavement among elderly people: Grief reactions, post-bereavement hallucinations and quality of life. Acta Psychiatrica Scandinavica. 87, 72–80.

Hall, L.D., Herrod, J.J., Carpenter, T.A. & McKenna, P.J. (1994). Magnetic resonance imaging in schizophrenia: a review of clinical and methodological issues. In: R.J. Ancill, S. Holliday and J. Higenbotham (Eds.), Schizophrenia: Exploring the Spectrum of Psychosis. Chichester: Wiley.

Honig, A., Romme, M. A., Ensink, B. J., Escher, S. D., Pennings, M. H., & deVries, M. W. (1998). Auditory hallucinations: A comparison between patients and nonpatients. Journal of Nervous and Mental Disease, 186, 646–651.

Kane, J. M. (1996). Treatment-resistant schizophrenic patients. Journal of Clinical Psychiatry. 57, 35-40.

Kane, J., Honigfield, G., Singer, J., & Meltzer, H. (1988). Clozapine for the treatment-resistant schizophrenic: A double blind comparison with chlorpromazine. Archives of General Psychiatry. 45, 789-796.

Kinderman, P., & Bentall, R.P. (1997). Causal attributions in paranoia and depression: Internal, personal and situational attributions for negative events. Journal of Abnormal Psychology. 106, 341-345.

Kingdon, D.G., & Turkington, D. (1995). Cognitive behavioural therapy of schizophrenia. East Sussex: Guilford Press.

Kinzie, J., & Boehnlein, J. (1989). Posttraumatic stress among Cambodian refugees. Journal of Traumatic Stress. 2, 185–198.

Krabbendam, L., Janssen, I., Bijl, R.V., Vollebergh, W.A.M., & Van Os, J. (2002). Neuroticism and low self-esteem as risk factors for psychosis. Social Psychiatry and Psychiatric Epidemiology. 37, 1-6.

Kugelmass, S., Faber, N., Ingraham, L.J., Frekel, E., Nathan, M., Mirsky, A.F., & Shakhar, G.B. (1995). Reanalysis of SCOR and anxiety measures in the Israeli high-risk study. Schizophrenia Bulletin. 21, 205-217.

Kuipers, E. (1994). The measurement of expressed emotion: Its influence on research and clinical practice. International Review of Psychiatry. 6, 187-199.

Kuipers, E., Garety, P.A., Fowler, D., Dunn, G., Bebbingon, P.E., Freeman, D., & Hadley, C. (1997). The London- East Anglia randomised controlled trial of cognitive behaviour therapy for psychosis I: effects of the treatment phase. British Journal of Psychiatry. 171, 319-327.

Larkin, W. & Morrison, A.P. (2006). Trauma and psychosis: New directions for theory and therapy. East Sussex, Routledge.

Leff, J.P. (1968). Perceptual phenomena and personality in sensory deprivation. British Journal of Psychiatry. 114, 1499-1508.

Maher, B.A. (1988). Anomalous experience and delusional thinking: the logic of explanations. In T.F. Oltmanns and B.A. Maher (Eds.), Delusional Beliefs, New York: John Wiley, 15-33.

Malmberg, A., Lewis, G., David, A., & Allebeck, P. (1998). Premorbid adjustment and personality in people with schizophrenia. British Journal of Psychiatry. 172, 308-313.

Marder, S.R. (1996). Management of treatment-resistant patients with schizophrenia. Journal of Clinical Psychiatry. 57, 26-30.

McCormick, D.J., & Broekema, V.J. (1978). Size estimation, perceptual recognition and cardiac rate response in acute paranoid and non-paranoid schizophrenics. Journal of Abnormal Psychology. 87, 385-398.

Morrison, A.P., Frame, L. & Larkin, W. (2003). Relationships between trauma and psychosis: A review and integration. British Journal of Clinical Psychology. 42, 331-353.

Oswald, I. (1974). Sleep (3rd ed.). Harmondsworth, England: Penguin.

Peters, E.R., Joseph, S.A., & Garety, P.A. (1999). The measurement of delusional ideation in the normal population: Introducing the PDI (Peters et al. Delusions Inventory). Schizophrenia Bulletin. 25, 553-576.

Read, J. (1997). Child abuse and psychosis: A literature review and implications for professional practice. Professional Psychology: Research and Practice. *28*, 448–456.

Read, J., van Os, J., Morison A.P., & Ross, C.A. (2005). Childhood trauma, psychosis and schizophrenia: a literature review with theoretical and clinical implications. Acta Psychiatrica Scandinavica. 112, 330-350.

Ross, C. A., Anderson, G., & Clark, P. (1994). Childhood abuse and the positive symptoms of schizophrenia. Hospital and Community Psychiatry. *45*, 489–491.

Roth, A., & Fonagy, P. (2005). What works for whom?; a critical review of psychotherapy research. Second edition. New York: The Guildford Press.

Sartorius, N., Jablensky, A., Korten, A., Ernberg, G., Ander, M., Cooper, J.E., & Day, R. (1986). Early manifestations and first-contact incidence of schizophrenia in different cultures. Psychological Medicine. 16, 909-928.

Sensky, T., Turkington, D., Kingdon, D., Scott, J.L., Scott, J., Siddle, R., O`Carroll, M., & Barnes, T.R. (2000). A randomised controlled trial of cognitive-behavioural therapy for persistent symptoms in schizophrenia resistant to medication. Archives of General Psychiatry. 57, 165-172.

Shaw, K., McFarlane, A., Bookless, C., & Air, T. (2002). The aetiology of postpsychotic posttraumatic stress disorder following a psychotic episode. Journal of Traumatic Stress. 15, 39–47.

Shorter, E. (1997). A history of psychiatry. New York: Wiley.

Siegel, R.K. (1984). Hostage hallucinations. Journal of Nervous and Mental Disease, 172, 264-271.

Strauss, J.S. (1969). Hallucinations and delusions as points on continua function. Archives of General Psychiatry, 21, 581-586.

Tien, A.Y., & Eaton, W.W., (1992) Phychopathologic precursors and sociodemographic risk factors for the schizophrenia syndrome. <u>Archives of General Psychiatry</u>, 49, 37-46.

Verdoux, H., Maurice-Tison, S., Gay, B., van Os, J., Salamon, R., & Bourgeois, M.L. (1998). A survey of delusional ideation in primary-care patients. <u>Psychological Medicine</u>, 28, 127-134.

Vernon, J. (1963). <u>Inside the black room.</u> Harmondsworth, England: Penguin.

Van Dael, F., Versmissen, D., Janssen, I., Myin-Germeys, I., van Os, J., & Krabbendam, L. (2006). Data gathering: Biased in psychosis? <u>Schizophrenia Bulletin</u>. 32, 341−351.

von Baeyer, W. (1977). Pathogenetic significance of extreme psychosocial stress in the development of endogenous psychoses. <u>Nervenarzt</u>, <i>48</i>, 471–477.

Watt, N.F., Grubb, T.W., & Erlenmeyer-Kimling, L (1982). Social, emotional and intellectual behaviour among children at high risk for schizophrenia. <u>Journal of Consulting and Clinical Psychology</u>, 50, 171-181.

Walston, F., Blennerhassett, R. C., & Charlton, B. G. (2000). Theory of mind, persecutory delusions and the somatic marker mechanism. <u>Cognitive Neuropsychiatry</u>. 5, 161−174.

Wells, A. (1997). <u>Cognitive therapy of anxiety disorders: A practice manual and conceptual guide</u>. New York: Wiley.

APPENDIX 1

Search Strategy Procedure

Stage 1

The trainee had an initial interest in psychosis and psychological interventions for psychotic patients. A more specific interest was stimulated by readings of books and papers from Richard Bentall, such as 'The Syndromes and Symptoms of Psychosis' (1990), 'Abandoning the Concept of 'Schizophrenia'' , (1988) and 'Madness Explained' (2003). This literature helped the trainee to focus his interest on the importance of psychological processes in the formation of psychosis. From this reading, other key authors were identified and relevant publications were read.

Stage 2

Following this, discussions with the field supervisor allowed the trainee to focus on the readings and the search on emotion and cognition in psychosis. In addition, discussions with the research supervisor helped to gradually narrow down the area of interest and elicit more specific searches on empirical studies. A critical set of studies were found where non-clinical participants with high anxiety developed psychotic-like symptoms (paranoid delusions) when they experienced a computer simulation of a social encounter. Opinion and research articles were found   (Freeman & Garety, 2004; Freeman et al. 2003; Freeman, et al. 2005). Again, papers and books from the identified authors and associated studies were searched and read.

Search conducted at Stage 2

At this point there were two occasions when the search was conducted. The first occasion occurred when the trainee was trying to identify literature related to emotion and cognition in psychosis. The key terms that were used in this search were mainly *emotion, affection, psychosis* and *cognition*.

The second literature search focused on terms like *paranoia, delusions, cognitive, psychosis, schizophrenia and virtual reality*. The reason was because the focus of the study became clearer due to gaps found in the research literature and specific papers regarding paranoid delusions became the principal target. Other key terms emerged from this search included *trauma* and *anxiety*.

Procedures Utilised

Relevant key words and terms identified from the selected and more important articles were used as search terms.

Boolean operator (AND, OR) were used when search engines were employed to explore data bases. These functions helped to combine key terms and allow more specific and searches of manageable quantity.

The truncation technique was used at the end of a key term to ensure that all the derivations of the same concept were explored. For example *emotion** would allow the finding of papers where the key terms had the root word emotion but the actual terms are a derivative of the root as *emotional*.

Search dates were confined to literature published between 1995 to 2007. However, older material that was identified through the search was also explored and read e.g. Claridge (1985). With regards to other variables like   *population*,

the search excluded or included children depending on the search made. For example, when the term *trauma* was included the search allowed the exploration of literature concerning children. English was the only language included in the searches.

Key Terms Combinations used in the Searches

- Emotion*, affect*, psychosis, cognition.

- Emotion, affect*, schizophrenia, cognition.

- Schizot*, personality, emotion*

- Schizot*, schizophrenia, emotion*.

- Paranoia, delusions, cognitive, psychosis, schizophrenia, virtual reality.

- Paranoia, normal*, anxiety.

- Paranoia, social anxiety, cognitive, psychosis.

- Trauma*, psychosis.

- Abuse, psychosis.

- Trauma*, paranoid ideation, psychosis, delusion.

- Trauma*, persecutory delusions, psychosis, delusion.

- Trauma*, schizophrenia, delusion.

- Abuse, schizophrenia.

- Theory of mind, psychosis, paranoia.

- Self-esteem, psychosis, attribution.

- Self-esteem, depression, anxiety, paranoid ideation, psychosis.

- Cognitive-behavioural therapy, control trial, psychosis.

- Cognitive-behavioural therapy, control trial, schizophrenia.

- Attribution bias, psychosis, paranoid ideation.

Databases and search engines used for the searches

Each key term was entered into the different databases.

- **PsychINFO**

- **Pubmed**

- **Ovid Online**

- **Proquest**

- **ScienceDirect**

- **APA PsycNET**

- **Blackwell Synergy**

- **IngentaConnect**

- **Google Scholar**

- **National Electronic Library for Health**

- **British Psychological Society Web**

Other search procedures

Names of relevant authors were also used for searches. Key terms found in the references included in the more relevant papers were also utilised for searches.

Citation alerts were activated for relevant papers, e.g. Freeman et al. (2003). in relation to paranoid ideation.

A COMPARISON OF PARANOID IDEATION IN CLIENTS WITH PSYCHOSIS OR ANXIETY DISORDERS DURING AN INTERACTIVE VIDEO TASK

GUSTAVO CAMINO ORDÓÑEZ

Submitted in partial fulfilment of the requirements of the University of Hertfordshire for the degree of DClinPsy

July 2008

INDEX

ACKNOWLEDGEMENTS

Word Count: 23.306

ABSTRACT

Background. Previous studies have shown that the use of simulated social environments permits paranoid thinking to be studied. These studies have used a cognitive model of paranoia and suggest that anxiety is an important part of the paranoid experience. Additionally, research addressing the relationship of childhood trauma to psychosis indicates that psychotic symptoms are related to childhood abuse and neglect. The aim of the study was to explore the role of anxiety and childhood trauma in psychotic and anxious participants using a simulated social encounter task.

Method. 15 individuals with paranoid delusions, 11 with anxiety disorders and 14 non-clinical controls experienced a simulated social encounter task populated by four filmed characters instructed to behave neutrally (n=40). After the task, the participants completed questionnaires to describe their experience of the situation. 5 questionnaires were used to study paranoid thoughts. The first two were the Details of Threat questionnaire and the VR questionnaire. The other 3 were designed specifically for the study (faces, trust and power questionnaires). Additionally, the Beck Anxiety and Depression Inventories and also a childhood trauma questionnaire were used as indicators of emotional distress.

Results. Appraisals from the clinical participants but not from the non-clinical ones were persecutory. The psychological variables from the cognitive model that predicted persecutory ideation were anxiety and neglect. Further, over-sensitivity towards the neutral faces of the characters distinguished again, clinical and non-clinical participants.

Conclusions. Paranoid thinking was elicited in clinical participants by a simulation of a social situation but not in normal controls. Anxiety and two forms of childhood trauma (physical and emotional neglect) were closely associated to persecutory thoughts. The results provide support for the cognitive model of paranoid delusions.

Key Words: Paranoia, Psychosis, Anxiety, Trauma, Cognitive Models.

CHAPTER 1. INTRODUCTION

OVERVIEW

From a psychopathological perspective, delusions constitute one of the symptoms that characterise a psychotic state. However, delusions present with numerous conceptual difficulties, as clinical and empirical evidence suggest. For instance, they may occur in normal individuals under extreme conditions (e.g. sleep deprivation, sensory deprivation, solitary confinement, etc). This would perhaps mean that they can occur to anybody, depending on the circumstances. Delusions may also change over time in the same individual and be subjected to therapeutic modification which is contrary to the assumed idea that delusions are the product of an organic condition and thus not amenable to psychological influence. Delusions seem to be present in many psychiatric disorders and also can be experienced by a significant section of the 'normal' population. Importantly, studies have indicated that delusions and normal thoughts differ in grade and may not be categorically different. These findings suggest the need for a change in how delusions are constructed and also promise a significant contribution from the psychological sciences to treatments and interventions for delusional disorders (Kingdon & Turkington, 2008).

An increasing number of papers in scientific journals provide evidence that delusions lie on a continuum with normality. The clinical literature associated with this evidence is now offering cognitive models as a framework with which to understand and treat delusional beliefs. This trend towards the study of specific symptoms like delusions in isolation instead of exploring the psychotic disorder as a whole defies the traditional view of studying disorders as diagnostic categories and blurs the distinction between the normal and the pathological. In this respect, specific models describing the mechanisms of persecutory delusions are now being considered for empirical testing. Cognitive models

propose that persecutory delusions are the product of the complex interaction between cognitive biases and emotional processes. These ideas are stimulating the development of psychological interventions for psychosis, which challenge the traditional and dominant medical model in mental health and help to construct delusions as psychological phenomena.

The present research is grounded in the tradition of investigating psychological disorders as points on a continuum between normality and abnormality focusing on paranoid thinking, and making special emphasis on the importance of emotion in psychosis and paranoid ideation.

This introduction covers research and theory relevant to the study of psychotic symptoms, especially delusions. In addition to this, the current study will be discussed and the research questions presented. In the first section a conventional definition of delusions and paranoid delusions are debated from a psychological point of view. This section is a more detailed appraisal of the topic already covered in the literature review. In section two, several psychological processes and constructs putatively relevant in the field of psychosis are discussed. These processes that offer ways of understanding the psychopathology of psychosis and delusions do not constitute formal models of paranoia but are examined with the purpose of justifying the prominence of emotional factors in psychosis and the impact that such psychological processes have on the development of cognitive models of paranoid delusions. Again, in this section, a more thorough study of the factors already mentioned in the literature review is presented. In section three, a psychological definition of paranoid delusions is offered along with demographic data to illustrate the importance of this psychotic symptom in psychiatric and general populations. This is a summary of the topics covered in the literature review with additional material. In the fourth section, cognitive and affective explanations of paranoid thinking are a summary of topics previously included in the literature review. They are examined before presenting two cognitive models of persecutory

delusions. Section five discusses the chosen methodology, the rationale for the inclusion of the different measures and finally a statement of research aims.

1.1. A PSYCHOLOGICAL ACCOUNT OF PERSECUTORY DELUSIONS

In contemporary psychopathology the concept of delusion has been defined as a "false belief based on incorrect inference about external reality that is firmly sustained despite what almost everybody else believes and despite what constitutes incontrovertible and obvious proof or evidence to the contrary" (American Psychiatric Association (APA), 1994; p.765). A persecutory delusion is defined as "a delusion in which the central theme is that one (or someone to whom one is close) is being attacked, harassed, cheated, persecuted, or conspired against (APA, 1994; p765-66). The term 'delusion' is included in the definition of 'psychotic' and is considered as a symptom of psychosis. Both concepts (delusions and psychosis) seem to imply that the person experiencing delusions or psychosis has lost the ability to evaluate and make use of their own thoughts to make correct inferences or to construct accurate beliefs about the real world (Kaplan & Sadock, 2005). The judgement that a person experiencing a delusional thought makes may be held with unusual conviction, may not be amenable to logic and the absurdity of the content is palpable to others (Sims, 2001). However, when the idea that delusions may not be amenable to reason or logic has been studied, the results have suggested that delusions may differ in degrees of intensity and persist for varying lengths of time (Kingdon & Turkington, 2008). At the same time, clinically, it seems to be a common experience to see how clients experiencing these thoughts change their beliefs at some point after being treated psychologically. Furthermore, 'normal people' and clients with diagnoses other than psychosis frequently show significant inferential errors about daily life issues with little regard for any evidence that may question them (Freeman, 2007). As can be seen, the difficulty with delusional phenomena is not only the fact that they are variable but they are also not exclusive to a

specific disorder nor absent in the 'normal' population (Freeman, 2007). Other additional problems arise when it is observed that, in the psychiatric literature, little criticism or analysis has been given to the concept of delusion (Kingdon & Turkington, 2008). The consequent 'positioning' may lead to conflicting ideas about what types of beliefs depart from a particular culturally constructed event (e.g. when people from the same cultural background differ strongly in the way they see reality). Other problems may arise when we contemplate the relevance of the 'evidence' against a particular inference (even if the inference is aberrant), especially when certain thoughts have special significance or emotional value for us (e.g. political or religious beliefs, etc). However, a cognitive conceptualisation of the formation of delusions may suggest that significant fear and uncertainty primes the person to accept a sudden idea, even though false, that immediately has a calming or reassuring effect on the person (Jacobs, 1980). Such a description seems to be congruent with the phenomenological experience of normal and clinical populations (Kingdon & Turkington, 2008). These problems suggest that psychological models, theories and formulations of delusions may account for more of the clinical phenomena than traditional psychiatric formulations.

Biological psychopathology has traditionally required a single pathological entity as an explanation for symptoms of mental illness. This seems to be influenced by what may happen in other medical fields where pathological entities have successfully been isolated (e.g. bacteriology). Some conservative alternatives such as multiple pathological entities (syndromes) have also been offered (Kaplan & Sadock, 2005). However, this approach seems to share similar limitations with the single pathological entity model as it has been unable to demonstrate that psychosis is not a spectrum disorder, nor has there been found a singlebrain marker to be used in diagnosing clients (Boyle, 2002). More recently, it has been argued that proneness to psychosis is not necessarily an illness, but a dimension of human diversity and variability (Bentall, 2004). Empirical studies suggest that psychosis is not qualitatively different from

neurosis (Goldberg, Benjamin & Creed, 1994). This finding is linked to an emerging trend that is shifting perspective away from a disorder focus towards a transdiagnostic or across disorder perspective. In connection with this, evidence emanating from experimental psychology research suggests that there is a similarity in the cognitive processes identified across different psychological disorders (Harvey, Watkins, Mansell & Shafran, 2006). These statements open the door to the possibility of studying delusional thoughts in other populations such as clients with other diagnoses or 'normal' people and then allowing the exploration of delusions as part of a normal human response to complex circumstances.

1.2. PSYCHOLOGICAL PROCESSES RELEVANT IN PSYCHOSIS

Despite the significant investment in biological research framing psychosis as the result of brain anomalies, a more psychological approach has been able to demonstrate that the seemingly incomprehensible symptoms of psychosis may be the product of vulnerability, internal processes and severely stressful life events. In this section, relevant psychological processes of emotional nature will be presented to discuss how a number of such factors may contribute to the formation of psychotic symptoms in general and delusions in particular.

1.2.1. Trauma and Psychosis

Severely stressful life events can have a significant effect on those who suffer them. For many, experience of trauma may leave them psychologically damaged and perhaps vulnerable to future stressful situations. The clinical literature has found trauma and abuse to be risk factors to the development of psychosis (Ross, Anderson & Clark, 1994; Kilcommons & Morrison, 2005). What psychological factors appear to regulate this outcome? To address this question, a review of recent relevant studies will be discussed.

The interest in the importance of trauma has increased in recent years, especially after the consequences of the Vietnam War. However, the relevance of trauma as a causal factor in mental health may have been focused in trauma as a precipitating factor of non-psychotic disorders such as post-traumatic stress disorder (PTSD). The lack of attention to the potential connection between trauma and psychosis has been pervasive until recently. Some authors suggest that this lack of interest may be related to a number of difficulties. For instance, Read, van Os, Morrison and Ross (2005) point out at the dominance of the biological paradigm, the need to avoid family blaming, avoidance of re-diagnosing from psychosis to PTSD, the presence of dissociative disorders and other non-psychotic diagnoses or the avoidance of the difficult task to explore traumatic experiences.

1.2.1.1. The Extent of the Trauma

A large number of experiences can qualify as stressful life events. For instance, divorce, death of loved ones, road traffic accidents, homelessness, migration, racism or bullying would be just some examples (Harvey & Miller, 2000). From a wider perspective, known effects of stressful life events cover most adult mental health disorders including affective and anxiety disorders (Updegraff & Taylor, 2000). Therefore, it would not be surprising to find that psychosis may also be associated with stressful life events. The critical point perhaps is to ask ourselves whether trauma and psychosis represent a more severe form of reaction to difficult experiences, resulting in the bizarreness and relatively unusual presentation of psychotic patients. Janssen and colleagues' study shows that patients who had experienced child abuse of mild severity were twice as likely than non-abused participants to suffer from 'pathology level' psychosis compared with 10.6 and 48.4 times more likely for those who had suffered moderate and high severity of abuse respectively (Janssen, Krabbendam, Bak, Hanssen, Vollebergh, de Graaf & van Os, 2004). Patients who have experienced childhood sexual abuse or child physical abuse have earlier contact with mental

health services, more hospital admissions, longer stays, more medication prescribed, and more symptom severity (Read, van Os, Morrison & Ross, 2005). Prisoners of war subjected to the most extreme and traumatic experiences tend to present with more psychotic symptoms (Beebe, 1975). Having experienced child sexual abuse and child physical abuse increases the likelihood of suffering from psychotic symptoms (Read, Agar, Argyle & Aderhold, 2002; Read & Argyle, 1999). The problem with these findings as a whole is that they can suggest that trauma might cause any known mental health problem and that psychosis might be placed at the extreme of a continuum of reactions to adversity.

1.2.1.2. The Problem of Multiple Diagnoses

Another aspect that may confuse mental health professionals when facing the potential link between trauma and psychosis is the coexistence of different diagnostic categories in the same patients. Psychotic symptoms such as hallucinations and paranoia are more prominent in combat veterans with PTSD than in those without it (Butler, Mueser, Sprock & Braff, 1996; Sautter, Brailey, Uddo, Hamilton, Beard & Gorges, 1999). However, when clinicians had to identify the primary diagnosis related to war trauma, PTSD was given preference even if the patients presented with psychotic symptoms (Read, 1997; Read, Goodman, Morrison, Ross & Aderhold, 2004; Ross, 2005; Van Putten & Emory, 1973). The similarities between PTSD and psychosis have been pointed out by several authors (Muenzenmaier, Castille & Shelley, 2005; Hamner, Frueh & Ulmer, 2000). For instance, Morrison, Frame and Larkin have emphasised the importance of individuals' appraisals of the re-experiencing-symptoms of PTSD. Given the phenomenological resemblance between flashback experiences and hallucinations, it has been suggested that the diagnosis of PTSD in preference to psychosis may rely on the patient's insight of the connection between intrusive experiences and trauma memories or the transparency of the history of abuse to the diagnostician (Steel, Fowler & Holmes, 2005).

A high co-morbidity of anxiety and depression in psychosis has been reported, and studies indicate that in the majority of cases symptoms of anxiety and depression precede by two to four weeks the onset of a psychotic episode (Cosoff & Hafner, 1998; Birchwood, Macmillan & Smith, 1992). High levels of anxiety and worry are found in patients with persecutory delusions (Startup, Freeman & Garety, 2007). Furthermore, anxiety is known to be present in delusion formation and maintenance (Freeman, Garety, Kuipers, Fowler & Bebbington, 2002).

Again, these findings provide evidence of the disadvantages of the disorder-focus in research and treatment as the marked similarity or overlap between diagnoses and pathological experiences may suggest that analogous psychological processes underlie across the different psychological disorders. Such reflections reveal that a categorical conceptualization of disorders does not mirror the clinical reality and that most of the cognitive and behavioural processes occur on a continuum. Cognitive behavioural researchers and clinicians are increasingly more aware of these facts. In this respect, a trend with a focus across disorders in the development of psychological models and interventions is emerging (Harvey, Watkins, Mansell & Shafran, 2006).

1.2.1.3. Types of Trauma associated to Psychosis

Are there some forms of trauma more typically associated with psychotic symptoms? Surveys have informed that between 34 and 53% of patients with severe mental health problems report child sexual abuse or physical abuse (Darvez-Bamez, Lemperiere, Degiovanni & Gaillard, 1995; Goff, Brotman, Kindler & Waites, 1991; Ross, Anderson & Clark, 1994). 56% of in-patients admitted for first-episode psychosis disclosed having experienced child sexual abuse (Greenfield, Stratowski, Tohen, Batson & Kolbrener, 1994). In another survey it was reported that 46% of a sample of chronic psychotic in-patients had experienced sexual abuse (Beck & van der Kolk, 1987). More recently, in a study

where case notes of 200 out-patients were reviewed it was found that those who presented with at least two symptoms of psychosis had experienced sexual abuse (Read, Agar, Argyle & Aderhold, 2002). Bebbington and colleagues were able to use a large sample size from the British National Survey of Psychiatric Morbidity to test the hypothesis that a range of victimisation experiences contribute to vulnerability to psychosis. The results suggested that those suffering from psychosis were 15.5 times more likely to have experienced sexual abuse than any other mental health diagnosis. After sexual abuse, violence in the home and running away from home were the more common traumatic experiences associated with psychosis (Bebbington, Bhugra, Brugha, Singleton, Farrell, Jenkins, Lewis, & Meltzer, 2004).

1.2.1.4. Developmental Perspectives

1.2.1.4.1. Childhood Trauma and Psychosis

A 2004 review (Read, et al., 2004) identified nine studies showing that abuse survivors score higher than non-abused people on the 'schizophrenia' and 'paranoia' scales of the MMPI and the 'psychosis' scale of the Symptom Checklist 90-Revised (SCL-R). In a sample of adult out-patients diagnosed 'schizophrenic', 85% had suffered some form of childhood abuse or neglect (Holowka, King, Saheb, Pukall & Brunet, 2003). In a study of 'chronically mentally ill women' those who had been abused or neglected as children experienced more psychotic symptoms than other patients (Muenzemaier, Meyer, Struening & Ferber, 1993). The same is found in general population studies of psychotic symptoms (Janssen, Krabbendam, Bak, Hanssen, Volleberg, de Graaf & van Os, 2004; Ross & Joshi, 1992). A recent general population study found that childhood neglect was more predictive of schizotypal traits than were child sexual abuse (CSA) or child physical abuse (CPA) (Berenbaum, Valera & Kerns, 2003). Ross and colleagues found, with an in-patient sample of 'schizophrenics', that

those who had suffered CSA or CPA had significantly more positive symptoms of schizophrenia than those not abused (Ross, Anderson & Clark, 1994).

1.2.4.1.2. Adult Trauma and Psychosis

The research literature concerning psychosis and post-childhood trauma in adulthood suggests that this type of experience might be a potential mediating factor in the relationship between childhood trauma and psychosis (Read, van Os, Morrison & Ross, 2005). Most psychiatric patients suffer serious physical assaults as adults. One study found that in the year before hospital admission 63% had suffered physical violence by their partners and 46% of those living at home had been assaulted by family members (Cascardi, Mueser, Degiralomo & Murrin, 1996). The majority of women patients have suffered sexual assaults. Approximately a third have been raped. About a quarter of male patients are sexually assaulted as adults (Read, et al., 2004). Psychiatric inpatients tend to under-report abuse (Read, 2005). Interpersonal trauma in adulthood is very common among people who already have psychosis and child abuse is causally related to psychiatric sequelae including overall severity and adult trauma (Read, van Os, Morrison & Ross, 2005). In 2005 a review of studies of in-patients found that 54% had suffered either CSA or CPA (38%). In a recent study, the child abuse prevalence increases to 90% when abuse or neglect (physical or emotional) are included (Bowe, Morrison & Morley, 2005).

1.2.1.5. Trauma and Psychotic Symptoms

1.2.1.5.1. Hallucinations

A significant proportion of studies indicate that a strong relationship between childhood abuse and hallucinations (Read, van Os, Morrison & Ross, 2005). Additionally, the relationship between abuse and hallucinatory experiences may exist across diagnoses (Hammersley, Dias, Todd, Bowen-Jones, Reilly & Bentall,

2003). A study of predisposition to hallucinations with normal participants (Morrison & Petersen, 2003) suggested that those who were more predisposed reported more traumatic experiences.

1.2.1.5.2. Delusions

A large study of the general population found that delusions were strongly associated to child abuse (Janssen et al., 2004). In a study of homeless adolescents intrafamilial child physical abuse was linked to paranoid symptoms (Mundy, Robertson, Roberston, Greenblat, 1990). Among 200 out-patients support for a relationship between child abuse and paranoid ideation was found (Read, Agar, Argyle & Aderhold, 2003). Paranoid delusions were present in those experiencing child sexual abuse (40%), compared to 23% of the non-abused patients. Results from another study support the mediator role of negative schematic beliefs about self and others between trauma and paranoia (Gracie, Freeman, Green, Garety, Kuipers, Hardy, Ray, Dunn, Bebbington & Fowler, 2007).

1.2.1.6. Trauma and Content of Psychotic Symptoms

A number of studies have found that the content of delusional and hallucinatory experiences of psychotic patients can be associated with past abuse (Read et al., 2003; Beck & Van Der Kolk, 1987; Ellenson, 1985). For example, in an out-patient study, references to the devil were more frequent in those who had previously experienced child sexual abuse (Read et al., 2003). In a study linking child sexual abuse and hallucinations the authors found that patients tended to consider their auditory hallucinations as 'malevolent' (Offen, Waller & Thomas, 2003). Some studies have quantified the frequency with which the content of symptoms is related to trauma in psychotic patients with a background of childhood abuse and found that this can occur in about half of cases (Bowe, et al., 2005; Read & Argyle, 1999).

1.2.2. Personality and Psychosis

Schizotypy is a psychological construct which describes a continuum of personality traits and experiences related to psychosis. This view can be traced back to Bleuler who believed that there was no clear distinction between normality and psychosis, and that psychosis was an extreme expression of thoughts and behaviours that could be identified to varying degrees throughout the general population (Winters & Neale, 1983). Eysenck and Claridge developed this conceptualisation in terms of personality constructs. Eysenck conjectured that there was a single personality trait which he called psychoticism. Claridge termed his concept schizotypy after studying unusual experiences in the general population and the clustering of psychotic symptoms which were; unusual experiences, cognitive disorganization, introverted anhedonia and impulsive non-conformity (Eysenck, 1992; Bentall, Claridge & Slade, 1989; Claridge, McCreery, Mason, Betall, Boyle, Slade & Popplewell, 1996) .

However, the exact nature of the relationship between schizotypy and diagnosable psychotic illness is still controversial. One reason for this might be the multidimensional aspect of schizotypy (Raine, 1991). There are a number of approaches in studying schizotypy, some more biological and others more psychological. The advocates of the more biological approaches to schizotypy think that this concept reflects a cognitive or biological vulnerability to psychosis, although this may remain dormant and never express itself unless triggered by appropriate environmental events or conditions (such as certain doses of drugs or high levels of stress). There is evidence for this hypothesis in twin studies where psychosis-proneness and traits delineating personality disorder found that genetic and environmental markers explain the relationship between psychotic and personality features (e.g. Jang, Woodward, Lang, Honner & Livesley, 2005). In another study, evidence was found suggesting that genetic and environmental influences act separately to create two clinical subtypes. In the first subtype genetic, prenatal, and early postnatal factors result in psychological disturbances that lead to psychosis, and may benefit from pharmacological intervention,

whereas in the second subtype, social adversity plays a part and does not lead to full blown symptoms of psychosis. In this case the patient may show greater symptom fluctuation and may be more responsive to psychological intervention (Raine, 2005). More psychological approaches originating from personality theory observe that full blown psychotic illness is the most extreme end of the schizotypy spectrum and there is a natural continuum between people with low and high levels of schizotypy. Support for this dimensional model comes from studies where high-scores on measures of schizotypy may meet the diagnostic criteria for schizotypal disorders or may predict vulnerability to experiencing psychosis (Gooding, Tallent & Hegvi, 2001; Morrison, Bentall, French, Walford, Kilcommons, Knight, Kreutz, & Lewis, 2002; Miller, Byrne, Hodges, Lawrie, Owens & Johnstone, 2002). Socioeconomic variables also seem to be relevant. For instance, a study investigating whether schizotypal traits vary according to ethnicity and class found that an ethnic minority (Afrocaribbean) scored higher in delusional ideation and schizotypy than white British participants, and that class interacted with ethnicity (working class Afrocaribbeans scored higher than middle class ones). The results suggested that class and ethnicity play a part in the expression of delusional ideation schizotypy (Sharpley, & Peters, 1999).

The connexion between psychosis and schizotypy not only relies on the dimensional aspect of their similarities but also in the contribution of emotional factors in the expression of schizotypy. Studies have found that schizotypy is associated with increased response to stressful events, and a tendency to show effects of mood on thinking and behaviour (see Kerns, 2005 for a review). Other studies suggest that emotions such as those produced by stress might contribute to psychotic symptoms and to schizotypy (Norman & Malla, 1993; Ventura, Nuechterlein, Lukoff & Hardesty, 1989). Psychosis is associated with difficulties in coping with stress, anxiety and physiological arousal (van den Bosch, van Asma, Rombouts & Luwerens, 1992; Norman & Malla, 1994; Norman, Malla, Cortese & Diaz, 1998). Furthermore, some studies find that schizotypy individuals report problems with the processing of emotional aspect of tasks

(Kerns, 2005, 2006; Berenbaum, Boden, Baker, Dizen, Thompson & Abramowitz, 2006). If that is the case, it may be sensible to think that those people with schizotypal traits who experience emotional stress might be vulnerable to psychotic symptom development. In support of this hypothesis, a randomised control trial set up to identify people at risk of psychosis and to treat them with cognitive therapy found that the high risk group scored high on schizotypy measures and dysfunctional self-schemas (Morrison, Bentall, French, Walford, Kilcommons, Knight, Kreutz, & Lewis, 2002). In another study with clinical participants which examined schizotypy as a vulnerability factor for trauma-related intrusions, the results indicated that individuals scoring high in positive schizotypy were vulnerable to experiencing more frequent trauma-related intrusions along with wider posttraumatic stress disorder symptomatology. The results suggest that certain information processing styles associated with high schizotypy individuals may account for a vulnerability to trauma related intrusions (Marzillier & Steel, 2007). Along with these findings in terms of cognitive styles, in several studies, bias against disconfirmatory evidence has been observed in psychosis. This has also been found in a very recent study that used a non-clinical sample, in which those scoring high on a schizotypy scale showed this bias. The result supported the idea of the schizophrenia spectrum account for psychosis (Buchy, Woodward & Liotti, 2007).

1.2.3. Attachment and Psychosis

Attachment is a form of affective connection which a person forms with specific people. Bolwby developed his theory of attachment relationships proposing that people develop stable ways of relating to others based on the initial relationship that we all have with our main caregivers. The attachment process is hypothesised to form a basic and internal working model of the self and others (Berry, Barrowclough & Wearden, 2007). This working model would guide interpersonal relationships and would contain beliefs in relation to people's patterns of behaviour. For instance, the model would inform the individual about

whether people are generally reliable, and also represent emotions associated with interpersonal experiences, such as pleasure, uncertainty, fear or threat, thus forming a unique attachment style (Pietromonaco, Feldman & Barret, 2000).

There is evidence indicating that attachment styles are stable across the lifespan. However, attachment theory does admit that working models may be adapted as a result of significant life events or interpersonal experiences (Crowell & Treboux, 1995). Attachment theory also provides a framework for understanding how social cognition, interpersonal experiences and regulation of affect influence psychological distress (Mallinckrodt, 2000). It has been pointed out that the constructs of self and other schemata in cognitive models of psychosis overlap with those of Bowlby's working model (Platts, Tyson & Mason, 2002). In fact, cognitive models of psychosis emphasize the importance of negative beliefs about self and others, past traumas, affection and past interpersonal relationships in the formation and maintenance of psychotic symptoms (Freeman, 2007). However, a particular contribution of attachment theory in conceptualisations of psychosis would help to illuminate the differential importance of the various types of interpersonal events influencing social cognition. For instance, it has been suggested that negative beliefs about the self and others associated with insecure attachment would increase sensitivity to criticism and negative responses from others. Difficulties in regulating affect and hyperarousal associated with insecure attachment styles would also increase vulnerability to stress in interpersonal situations (Mikulincer, Shaver & Pereg, 2003). In connexion with these processes it has been proposed that, given the importance of early experiences in the formation of the attachment process, trauma experiences perpetrated by caregivers during childhood should be a stronger predictor of psychosis than trauma in later life or trauma involving non-significant others (Pietromonaco Feldman Barrett, 2000).

Studies investigating attachment styles in psychosis suggest that insecure attachment is associated with psychotic symptoms (Dozier, 1990; Dozier,

Stevenson, Lee & Velligan, 1991; Mickelson, Kessler & Shaver, 1997). Additionally, other studies have explored the influence of parental experiences in psychosis finding that those suffering from this disorder report that their parents were significantly more overprotective but less caring than controls (Onstad, Skre, Torgersen & kringlen, 1994; Winther, Helgeland & Torgersen, 1997). Related to the idea of over involvement of families in the life of psychotic people is the concept of expressed emotion (EE) which also has more connotations such as, hostility and criticism (Butzlaff & Hooley, 1998). Insecure attachment seems to be associated to maternal high EE and familial high EE is also associated with insecure attachment and mental illness (Dozier, et al 1991).

In summary, a number of commentators suggest that Bowlby's conceptualisation of the affective and interpersonal nature of beliefs about self and others could help to improve the understanding of how psychotic symptoms develop. In particular, attachment theory could be useful in explaining how different attributional styles and beliefs develop until they take the form of psychotic symptoms. An additional and bolder hypothesis generated from this perspective would propose that childhood trauma would have relatively more prominence than adult trauma in the vulnerability to psychosis.

1.3. THE STUDY OF PERSECUTORY IDEAS

Recently, a growing interest in studying individual psychotic symptoms in isolation has become apparent. This has occurred in parallel with the positive outcome of cognitive behavioural interventions in reducing delusions and other psychotic symptoms (Freeman & Garety, 2003). Cognitive strategies targeting delusional thoughts aim to understand the role of those thoughts and to adapt standard cognitive behaviour techniques to them (Fowler, Garety & Kuipers, 2005). However, it has been observed that cognitive theories and interventions may undervalue emotional processes. The complexity of delusional thinking and

the entire presentation of the client experiencing psychotic predicaments suggest that psychological models that attempt to describe delusional thoughts would be more exhaustive if they included relevant concepts of competing models that contribute to the understanding of the genesis of delusional thoughts (Freeman, 2007).

1.3.1. A comprehensive Definition of Persecutory Delusions

A number of commentators have pointed out the limitations of definitions of delusional beliefs in general. However, the problems regarding the particular definition of persecutory delusions have been ignored (Freeman, 2007). Oltmanns (1988) suggested a consistent method on how to identify delusions by judging them from a list of dimensions that, on an increasing degree of endorsement, generates an acceptable degree of agreement on the presence of a delusion. Oltmanns identified a number of dimensions that have to be present in a person's delusional system; implausibility, unfounded, not shared by others, distressing and preoccupying. Freeman (2007) adds other characteristics such as firmly held, resistance to change, interference with social functioning and involvement of personal reference. Freeman (2007) has also suggested that from a systematic point of view it is necessary to understand the causes of each dimension. This requires attempting to answer questions such as what causes the content of a delusion, the degree of belief conviction, the resistance to change and the distress elicited by the delusion.

A critical conceptualisation about persecutory ideas has been outlined by Freeman & Garety (2000). They proposed criteria for a delusion to be identified as persecutory which included two dimensions; the individual believes harm is going to occur to him or her and that the perpetrator has the intention to cause this harm. These criteria are useful in the present study because this help to focus on the pure paranoid phenomena and allow comparisons amongst participant groups.

1.3.2. Epidemiology of Persecutory Delusions

Although for reasons mentioned above (the traditional lack of interest in psychiatry in the study of symptoms in isolation), the epidemiology of persecutory delusions has not been reviewed before, basic information on the prevalence of persecutory delusions suggests that they are the second most common symptom of psychosis, occurring in almost 50% of cases (Sartorious, Jablensky, Korten, Emberg, Anker, Cooper, & Day, 1986). Persecutory delusions also occur in other disorders such as depression (15% of cases Johnson, Horwath & Weissman, 1991), bipolar disorder (28% of cases occurring in manic episodes (Goodwin & Jamison, 1990), PTSD in 30% of cases (Hamner, Freuch, Ulmer & Arana, 1999), dementia (Flint, 1991), epilepsy and a range of other organic conditions (Trimble, 1992). With regards to the general population, it has been concluded that the rate of delusional beliefs in the general population is higher than that of people with psychosis (Freeman, 2006). Amongst the studies which indicate delusion sub-types a conservative estimate is that 10-15% of the general population regularly experiences paranoid thoughts although the figures include a continuum of severity (Freeman, 2007). A significant weakness of these epidemiological studies is that they may not record many fleeting everyday instances of paranoid delusions or distinction between real or unfounded events.

1.4. COGNITIVE MODELS OF PARANOID DELUSIONS

There are a number of etiological models that have attempted to explain the formation of psychotic symptoms and delusions. However, only a few have been devised specifically to describe how persecutory delusions are formed. The following are a number of proposals that have offered explanations of how paranoid delusions are formed but that do not constitute comprehensive models of the formation of paranoid thoughts.

1.4.1. Perceptual and Reasoning Processes

A number of causal factors have been proposed to explain the formation of paranoid delusions. Some are very general and not only target paranoid delusions. For example, Maher (1974) suggested that delusional thoughts originate from unusual internal experiences (e.g. perceptual and attentional alterations). This proposed mechanism has found some support in several studies (see Thewissen, et al., 2005; Murray, Grech, Phillips & Johnson, 2003). However, although anomalies of experience may be found in individuals with delusions, the empirical studies on the subject do not demonstrate a causal relationship amongst them. Additionally, many people have unusual experiences and do not develop delusions. Therefore, this account cannot fully explain the formation of delusions or paranoid delusions (Freeman, 2007).

Bias in data gathering, such as the selective attention to threat information (Kaney, Wolfenden, Dewey & Bentall, 1992) or the tendency to jump to conclusions in an experimental probabilistic reasoning task, has been identified as being present in people with delusions (Garety & Freeman, 1999). However, there is no consistent evidence to assume that the latter effect is strong in people presenting with sub-types of delusions such as paranoid delusions and no clear cause for this tendency in data gathering has been offered (Freeman, 2007).

If individuals with persecutory ideation misread the intentions of others, it could be argued that a mechanism of determining others' mental states is malfunctioning in those people. Theory of Mind (ToM) refers to the skills that people have in representing mental states such as feelings or intentions in the self or others (Premack & Woodruff, 1978). According to Frith (1992) persecutory beliefs occur because the deluded person cannot 'read' other peoples' actions and construes that they are conspiring against him or her. However, the inability to 'read' peoples' actions could lead people to many different conclusions not only paranoia. In any case Walston, Blennerhassett and Charlton (2000) did not

find theory of mind difficulties in four individuals with persecutory delusions. Furthermore, ToM difficulties seem to be more associated with thought disorder and negative symptoms than with positive symptoms and persecutory delusions (Greig, Bryson & Bell, 2004). Therefore, there is no strong or plausible argument to support the idea that paranoid delusions are mainly originated by ToM weaknesses.

1.4.2. Affective Processes

Affective processes have also been identified as etiological factors of psychotic phenomena including paranoid delusions. These processes are proposed to create the initial conditions for the onset of psychotic symptoms and do not require a close temporal connection with the initiation of the disorder. In that respect there are studies linking childhood trauma (e.g. Morrison, Frame & Larkin, 2003; Read, Van Os, Morrison & Ross, 2005) or poor social adjustment during adolescence (e.g. Malmberg, Lewis, David & Allebeck, 1998) with the development of psychotic symptoms. Berenbaum, Valera & Kerns (2003) found that psychological trauma can contribute to the development of schizotypal thinking. Kilcommons & Morrison's study (2005) suggest that psychosis is trauma-induced and consider delusions to occur from intrusions into awareness. They may take the form of thoughts, hallucinations or bodily sensations that arise in a way not consistent with the person's cultural context (e.g. an unfounded thought that assumes that the patient is subjected to terrorist espionage). These interpretations are believed to be mainly generated by faulty self and social knowledge. Such approaches propose that psychosis represents the end-point of an altered developmental process (Bentall, Fernyhough, Morrison, Lewis & Corcoran, 2007). Other studies find affective difficulties that may be closer in time with the beginning of a psychotic disorder such as social disadvantage and isolation (e.g. Freeman & Garety, 2004a). However, these studies do not separate paranoid delusions from the rest of the psychotic symptoms and do not specify the route by which for instance, trauma may lead to suspicious thoughts.

Recently a cognitive model of psychosis including trauma as a predisposing factor has been presented (Morrison, Frame & Larkin, 2003). This model suggests that the cognitive and behavioural consequences of trauma may make people more vulnerable to psychosis. Negative beliefs about self, the world and others seem to be associated with psychosis (Morrison, 2001). A study shows that if these types of beliefs have been developed as a result of trauma they can be associated to psychotic experiences (Kilcommons & Morrison, 2005). According to this model, psychotic experiences are basically normal phenomena that occur on a continuum in the general population (Johns & Van Os, 2001). The presence of traumatic experiences in the life of an individual who may experience psychotic-like symptoms would be the critical factor turning him/her into a patient (Honig, Romme, Ensink, Escher, Pennings & Devries, 1998). From this perspective, paranoid delusions could be understood as a defensive response to repeated abuse ('defensive' –but not in a Freudian way, e.g. defensive of the psyche). These experiences would easily make the victim conceive that other people who may evoke the perpetrator of the abuse are a potential threat. This would constitute a generalisation of stimuli (Read, van Os, Morrison & Ross, 2005).

Other studies concerned with affective processes have showed more interest in the role of anxiety in the development of paranoid delusions. More specifically, some studies have explored current anxiety as a predictor of paranoid thoughts (Freeman, Slater, Bebbington, Garety, Kuipers, Fowler, Met, Read, Jordan & Vinayagamoorthy,, 2003; Freeman, Garety, Bebbington, Slater, Kuipers, Fowler, Green, Jordan, Ray, & Dunn 2005b). However, these studies share similar weaknesses with ones related to anomalous experiences in that many people with anxiety do not develop delusions and again, for this reason this factor cannot solely explain the formation of paranoid delusions. In spite of this, it has been suggested that paranoid thinking and thoughts related to anxiety (e.g. worry, catastrophic thinking, anticipatory fears) coexist (Freeman & Garety, 1999) and that other tendencies found in people with anxiety are also present in those

experiencing persecutory beliefs (e.g. safety behaviours) (Freeman, Garety, & Kuipers, 2001).

1.4.3. Two Cognitive Models of Paranoid Delusions

From the literature related to psychosis there are two psychological theories that are more specific when attempting to explain why and how paranoid delusions are formed, and they are cognitive in nature. Richard Bentall was the pioneer of this research area and the latest version of his ideas about persecutory ideation are described in the Attribution-Self Representation Model (Bentall, Corcoran, Howard, Blackwood & Kinderman, 2001). Bentall and colleagues' theory has a strong motivational character and is also connected to dynamic concepts such as defence and unconscious processes. More recently, Daniel Freeman and colleagues have developed the Threat Anticipation Model (Freeman, Garety, Kuipers, Colbert & Fowler, 2006). Due to their theoretical and clinical importance these models will be discussed in more detail.

1.4.3.1. The Attribution-Self Representation Model

As has been said before, it is now well documented that people with delusions present with cognitive biases. Bentall's model emphasises the particular way in which attributions of a social nature are constructed by paranoid people. The model suggests that paranoid deluded patients tend to externalize causal explanations for negative events (Kaney & Bentall, 1989) thus showing a self-serving bias (Taylor, 1988). As the model assumes that people experiencing persecutory delusions have negative beliefs about themselves, they need to avoid the activation of these beliefs by attributing external events of a threatening nature to the actions of other people (see Figure 1) (Bentall, 2004). This dynamic aspect (the defence aspect of the mechanism) has been confirmed empirically when studies have assessed the attribution process with implicit tasks (Lyon Kaney, & Bentall, 1994). The tendency of paranoid patients to blame others

(attributing negative events to external-personal causes) has also been empirically supported by several studies (Kinderman & Bentall, 1997; Díez-Alegría, Vázquez, Nieto-Moreno, Valiente & Fuentenebro, 2006). Bentall and colleagues suggest that the model reflects a motivational tendency of people with persecutory delusions to protect self-esteem by avoiding conscious access to implicit negative self-schemata (Bentall, 2004).

Although the model has been able to help in the understanding of paranoid delusions, there are a number of problems that it has in relation to its empirical support. One of the difficulties is the limited number of studies published supporting the different aspects of the model, but more importantly, some studies show data inconsistent with the model (e.g. Krstev, Jackson & Maude, 1999; Peters, Day & Garety, 1997). In the light of these difficulties, it has been suggested that the more consistent result concerning the Attribution-Self Representation Model is the presence of an externalizing bias in people suffering from paranoid delusions (Beese & Stratton, 2004; Craig, Hatton, Craig & Bentall, 2004; Lee, Randall, Beattie & Bentall, 2004) and that this bias is a stable characteristic of individuals with paranoid delusional beliefs (present in acute and remitted patients) (Díez-Alegría, et al., 2006).
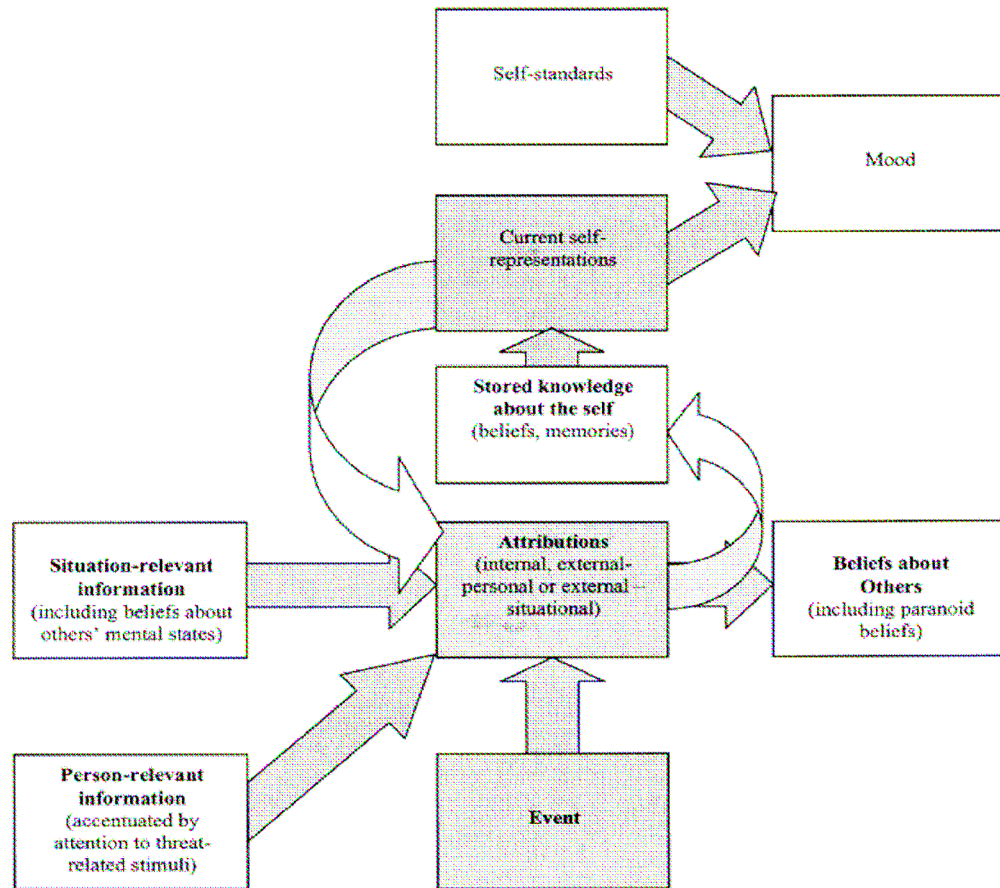
FIGURE 1. The Attribution–Self-Representation Cycle

Reproduced from Bentall, Corcoran, Howard, Blackwood & Kinderman (2001) p.1168.

1.4.3.2. The Threat-Anticipation Model

At a cognitive level, paranoid delusions can be understood as beliefs. According to this model, there are 3 factors that are considered important in the formation of a persecutory belief (See Figure 2); the presence of emotional distress, anomalous internal experiences and cognitive biases associated with psychosis. However, anxiety is considered the key contributing factor. The link between anxiety and paranoia seems to be strong. Evidence suggests that anxiety is associated to paranoid thoughts (Freeman, 2007) and that anxiety predicts the

155

occurrence of them (Freeman et al., 2003, 2005b). There are stressful events may activate negative beliefs about the self, others and the world that have been shaped by previous stressful experiences. These beliefs contain emotional distress in the form of anticipation of danger, worry and catastrophising. A pre-existing tendency to experience internal unusual experiences is also associated to external events when persecutory beliefs are formed. When cognitive biases such as reduced data gathering, failure to generate or consider alternative explanations for experiences, and confirmatory reasoning biases are also present, it is likely that persecutory ideas become held with conviction (Garety & Freeman, 1999; Freeman, Garety, Kuipers, Bebbington, & Dunn, 2004b; Freeman, Garety, McGuire & Kuipers, 2005). The simultaneous presence of these 3 factors leads to the selection of a paranoid explanation to make sense of the external experience. Such explanation assumes the prediction that the individual is going to experience a threat related to the external event (Freeman, 2007).

The threat anticipation model hypothesises that the maintenance of paranoid delusions are mainly sustained by anxiety processes (See Figure 3). These processes are self-focus and safety behaviours (Clark, 1999). The maintenance cycle is expected to create delusional distress, which is generated by further appraisal of the delusional beliefs. This mechanism contains worry, rumination and other beliefs related to the content of the delusion (e.g. beliefs related to the power attributed to the 'persecutor', control over the threat, and deservedness of harm).

This model seems to be able to explicitly incorporate the idea of a continuum in the development of paranoid beliefs as it assumes that the contribution of the different factors add up to a different load depending on the biography of the person and then validating the contribution of the study of non-clinical samples in the understanding of the delusional predicament. However, although the authors of the model claim to have incorporated contributing factors such as social

isolation and trauma, the exact route of these influences are not clearly expressed. This account does not explain why paranoid people tend to focus on certain themes either. For instance, some patients have paranoid thoughts related to being persecuted by the police, whereas others may think that there are gangs that are trying to kill them.
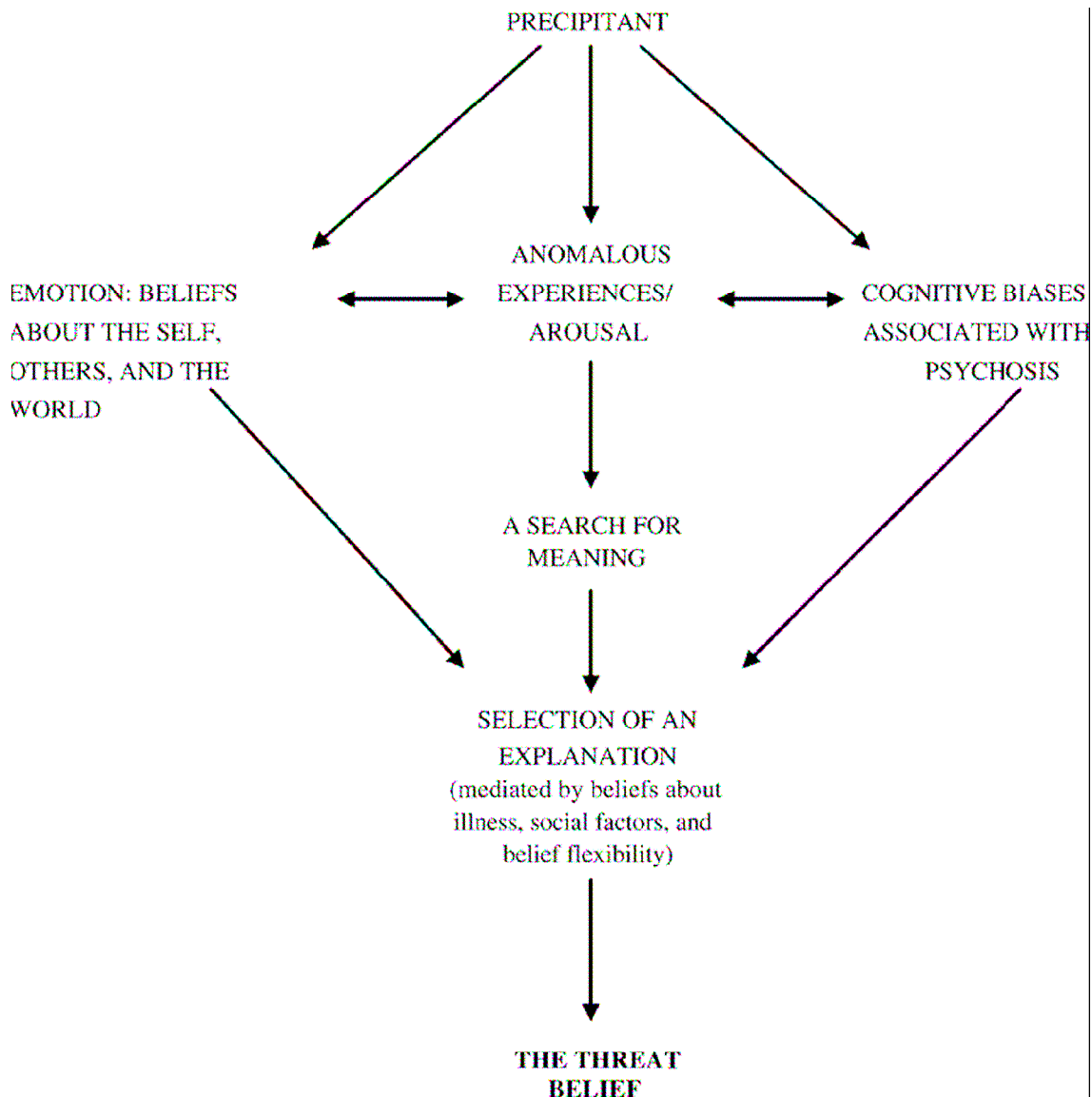
FIGURE 2. Summary of the formation of a persecutory delusion.
Reproduced from Freeman (2007) p. 449 .

DELUSIONAL DISTRESS

DEPRESSION

FURTHER APPRAISAL OF
THE BELIEF AND
ASSOCIATED
EXPERIENCES

ANXIETY

THE THREAT BELIEF

REINFORCEMENT
Relief not all in mind,
consistent with pre-
existing beliefs

DISCARDING
DISCONFIRMATORY`
EVIDENCE

Safety behaviours,
incorporation into the
delusional system

OBTAINING
CONFIRMATORY
EVIDENCE

Confirmation bias,
attentional and memory
biases, cognitive biases
associated with psychosis,
on-going anomalous
experiences, hostility, and
isolation

FIGURE 3. Summary of the maintenance of a persecutory delusion.
Reproduced from Freeman (2007) p.450.

1.5. THE PRESENT STUDY

The role of emotions and the influence of the social environment of the individual have been neglected in the study of psychosis (Freeman & Garety, 2003; Bentall, 2004). This study attempts to observe similarities and differences amongst patients diagnosed with psychosis and patients diagnosed with anxiety.

Research on the effect of trauma and anxiety have suggested that they may contribute to the formation of psychotic symptoms (Freeman & Garety, 2004a) and an implicit assumption within the continuum or dimensional approach is that, consequently, individuals with anxiety problems may experience a degree of sub-clinical psychotic symptomatology. In that respect it is expected that what distinguishes psychotic clients from anxious ones in terms of paranoid ideas may be of a qualitative nature.

According to the Threat-Anticipation model, anxiety is central in the formation of suspicious thoughts. If that is the case, anxious patients should present with levels of paranoid-like thoughts comparable to those suffering from a psychotic illness when exposed to a simulated environment. The aim of the present research is to study if anxiety patients experience significant levels of paranoid-like thinking when compared with patients suffering from psychosis. In line with the assumption that paranoia can be conceptualised as a psychological belief (and then to consider that it may be expressed in a continuum with normality) and concentrating on the study of symptoms, the present study focuses on persecutory ideation using the simulation of a social situation as a novel method to identify truly unfounded persecutory ideas in psychotic and anxious participants. In addition, the current study aims to determine whether those affected by paranoid thoughts present with childhood adverse experiences in their biographies. Bentall and Freeman's models suggest that this aspect is relevant to account for the formation of paranoid delusions.

1.5.1. Methodological Issues

When deluded patients have been assessed, some studies have used methodologies that do not warrant the identification of unfounded beliefs. For instance, the use of a self-report measure or a questionnaire does not necessarily distinguish between a genuine delusion and a belief that is the result of a real experience (Freeman, 2007). Alternative methodologies could aid in

improving the quality of the data. Computer generated environments have been used to provide a simulated arena where suspiciousness can be elicited by neutral characters (Freeman et al., 2004b). The outcome of these studies using normal subjects suggest that people with anxiety score higher in measures of suspiciousness supporting the idea that persecutory phenomena is explicable in terms of normal psychological processes. No studies of this nature have however attempted to include clinical participants. Possibly connected with this weakness may be that although very innovative, these studies involve the use of very special resources (e.g. virtual reality environments require special rooms and equipment) and tasks that could make the recruitment of psychotic patients very intricate and also question the ethical validity of the studies. This could, for instance, be due to the requirement of entering a dark room and wearing a helmet, which could potentially be very threatening for patients especially if they have paranoid delusions. Another criticism is that the use of artificial characters does not reflect the complexity of human facial and behavioural nature. The present study attempts to overcome these shortcomings by developing a short film in which real people are filmed in a social situation, and the participant of the study can watch the film on a laptop. This may facilitate the understanding of the tasks by reducing the threat that would be involved in wearing a helmet, entering a dark room and having to attend an appointment very far from the locality of the participant and in an unfamiliar environment. The use of the laptop allows flexibility for the data collection as the researcher can potentially recruit acute patients, outpatients and also do home visits.

Attributions for negative events are critical to Bentall and colleagues' model of paranoia. In contrast, Freeman and colleagues' model accepts the possibility that neutral or positive events may be taken as threatening by deluded patients. Therefore, the project will study whether a neutral simulation of a social encounter can elicit paranoid thoughts as predicted by Freeman's model.

1.5.2. Measures of Traumatic Experiences

An interesting aspect that has been pointed out by Bentall et al. (2001) and Freeman (2007) is that psychological models of paranoia have to find ways of investigating how longitudinal changes affect processes involved in the formation of delusional beliefs. This implies that both models are open to connect the impact of early relationships on the formation of cognitive schemas. There is evidence suggesting that adverse experiences in childhood may be associated with the later development of psychotic syndromes (Watt, Grubb & Erlenmeyer-Kimling, 1982). In connection with the previous idea, both models of paranoid delusions note that emotional schemata may arise from adaptation to adverse life predicaments through social-emotional learning (Fowler, Garety & Kuiper, 2005; Bentall, 2004). Bentall's theory suggests that paranoid delusions may reflect the individual's attempt to defend against threats to his own self-image. Freeman and colleagues' (2002) model, although more comprehensive (e.g. including more cognitive processes as causal factors), also suggests that schemas of vulnerability contribute to the formation of paranoia. In both cases, the origins of delusions can be psychological and of traumatic nature and, although in a different way, emotion seems to be also central. If that is the case, it would be reasonable to expect that adverse experiences may vary in intensity and severity and that the variability would explain the diverse presentation and intensity of suspicious thoughts in the population thus giving rise to the formation of different psychopathological categories. In that respect, the present study will investigate whether traumatic experiences vary quantitatively among people suffering from psychosis and on people who have anxiety disorders.

1.5.3. Measures of Emotion Perception, Perceived Threat and Power

Psychological approaches to psychosis have emphasized a symptom-based approach (Bentall, Jackson & Pilgrim, 1998). Paranoid thoughts are symptoms that are believed to exist on a continuum (Combs, Penn & Fenigstein, 2002)

although the actual links between normal and abnormal suspiciousness is not well understood at the present moment (Combs, Michael and Penn, 2006). Paranoia has a significant impact on social cognition and behaviour (Fenigstein, 1997). One area in which cognitive bias is observed is emotion perception. This seems to be a basic mechanism to allow appropriate social interaction. Although the evidence is limited, a higher level of suspiciousness is linked to deficits in emotion perception tasks, including the processing of facial expressions (Combs, Michael & Penn, 2006). The present research will study if neutral face expressions filmed for a social simulation task will be processed differentially by people with psychosis and by people with anxiety disorders. The study will include a questionnaire to investigate this issue. The aim of the questionnaire is to identify whether neutral facial expressions could elicit attributions of emotions about the characters and emotions of the participants that could be associated to threat beliefs, such as attributions of anger or emotions such as fear or concern.

In terms of emotional aspects of paranoid delusions to be included in the measurement of the responses to the simulated environment, two more important factors were considered. Persecutory delusions are beliefs that involve threat (Green, Garety, Freeman, Fowler, Bebbington, Dunn & Kuipers, 2006). Therefore, the Details of Threat questionnaire (ThQ) (Freeman, Garety & Kuipers., 2001) and the Trust Questionnaire (TQ) designed by the researcher were included to measure threat levels. Another emotional aspect found in the literature is that people feeling persecuted rate their persecutors as powerful (Freeman, Garety & Kuipers, 2001). A Power Questionnaire (PQ) was specifically devised to measure this factor. Finally the VR questionnaire (Freeman, Garety, Bebbington, Slater, Kuipers, Fowler, Green, Jordan, Ray & Dunn, 2005b) designed to identify basic paranoid traits related to perceived hostility was also included as a measure of the responses towards the simulated environment.

1.5.4. Research Questions

Do patients with anxiety disorders (but without clinically significant psychotic symptoms of delusions) experience similar levels of persecutory ideas as patients with primarily paranoid delusions on a simulated social encounter task?

1. It is predicted that the simulated environment will be sensitive to the presence or absence of suspiciousness in anxious and psychotic individuals.

2. It is predicted that patients with anxiety disorders will show similar levels of paranoid-like thoughts elicited by the video task, as patients with psychosis.

Do traumatic experiences in early childhood shape the way that the adult participants in the study respond to the simulated social encounter task?

1. It is predicted that the psychotic group will report more severe early traumatic experiences than the anxiety group.

2. It is predicted that those exhibiting a higher level of paranoid ideation elicited by the simulated environment will report higher levels of trauma.

CHAPTER 2. METHODOLOGY

2.1. ETHICS

Ethical approval was obtained from the Local Research Ethics Committee Cambridgeshire 3 (see approval letters in Appendix 1). Registration with Cambridgeshire and Peterborough R&D Department was also completed before the study commenced (see Appendix 2).

Participants were recruited from a Community Mental Health Team from Peterborough by approaching local consultant psychiatrists and clinical psychologists in the recruitment area. The clinicians identified potential participants according to the inclusion criteria (see below). With regards to the normal control participants, they were recruited via advertising in local surgeries and at the University of Hertfordshire. Sixty potential participants, in total, were identified from this process. Twenty patients refused to participate or were unreachable.

Once identified, participants were contacted by the clinicians to see if they would be interested to take part in the study. If they showed an interest in the project they were approached by the researcher who offered them a session to give them the information sheet and explain briefly the aims of the project (see Appendix 3). The information sheet suggested that they discuss the study with a family member or carer.

A further contact within two or three weeks later was made by phone in order to meet each participant if they opted to participate in the project. Forty participants consented to take part in the study. Written consent was taken at this session (see Appendix 4). The consent form informed that they did not have to take part and that they were free to withdraw at any time with no adverse consequence to

their care. All the participants gave informed consent for participation. The participants were also informed that the information collected would be confidential. Only the researcher would have access to information that would identify them and participants were also informed that the researcher was bound by the usual patient confidentiality rules. All questionnaires and interview data were coded numerically. Participants were informed that information disclosed would neither be entered into their medical notes nor lead to a change in either their medication or their usual care. With their permission, the participants' key workers were informed of their participation by letter.

The data was to be stored on a University of Hertfordshire computer and was password protected. All data held on the computer was anonymised using a numerical code. All hard copies of the questionnaire and interview data were anonymised using a numerical code and locked in a filing cabinet to which only the researcher had access. The data will be held up to a maximum of 15 years and then shredded.

Each participant was seen on one occasion. Care was taken to maximize motivation with each individual (e.g. facilitating the task if the person was dyslexic or had concerns regarding disclosure of sensitive information). Consequently the session was not longer than two hours. The initial part of the meeting took the form of an informal interview where the researcher built rapport with the participant and got to know them. After this participants were asked to indicate when they would like a break or stop the session. Some of the participants asked that feedback about the project be made available. Therefore, a summary letter will be sent to those who were interested in the outcome of the project.

As the study inquired about experiences that may have been distressing, all participants were given the opportunity to talk informally about their experiences with the researcher. It was anticipated that some of the participants would become anxious during the interview and before experiencing the simulation. In

the event that the participant did show distress or anxiety, the researcher was prepared to offer them techniques to manage their anxiety (e.g. breathing techniques). However, none of those interviewed reported or showed severe symptoms of distress or anxiety by watching the simulation or by discussing their experiences. Many participants reported that the experience had been positive and beneficial in itself and they had valued the opportunity to think about their difficulties in a different way.

2.2. DESIGN

The design was a cross-sectional study that collected data from two patient samples and a normal control sample. The first group included individuals with persecutory delusions (with psychosis) and the second group included individuals diagnosed with a form of anxiety disorder. The third group included normal individuals with no history of mental health problems. Both between and within subjects comparisons were chosen to analyse data from the interview and self-report questionnaires in order to explore a gap in previous research. Previous research findings were obtained by showing a simulation to normal subjects (Freeman, Slater, Bebbington, Garety, Kuipers, Fowler, Read, Jordan & Vinayagamoorthy 2003; Freeman, Garety, Bebbington, Slater, Kuipers, Fowler, Green, Jordan, Ray & Dunn 2005b). In the present study, the subjects were recruited from clinical and non-clinical populations.

2.3. PARTICIPANTS

The psychotic group and the anxious group were be recruited from patients within the Peterborough and Cambridgeshire Mental Health NHS Trust. The normal group was recruited from local surgeries and the University of Hertfordshire.

2.3.1. Selection Criteria

Group 1: Anxiety Group

The anxious group carried diagnosis with some form of anxiety disorder; to be between the ages of 18 and 65; and were able to read and write. Participants were outpatients.

Inclusion Criteria:

- A DSM-IV/ ICD-10 diagnosis of an anxiety disorder.
- Ages between 18-65
- Have a basic grasp of English
- No current substance/ alcohol abuse
- No evidence of a brain injury

Group Two: Participants with psychosis

The psychotic group had current persecutory delusions, a diagnosis of schizophrenia, schizo-affective disorder or delusional disorder and criteria for age and literacy as Group 1. Participants were outpatients.

Inclusion Criteria:
- A DSM-IV/ ICD-10 diagnosis of for Group 1: a psychotic illness, either schizophrenia, schizo-affective disorder or delusional disorder.
- Ages between 18-65
- Have a basic grasp of English
- No current substance/ alcohol abuse
- No evidence of a brain injury

Group Three: Normal Group

The normal group did not carry a diagnosis of any form of mental health disorder and had similar criteria for age and literacy as Group 1. Participants were be normal individuals.

Inclusion Criteria:

- No DSM-IV/ ICD-10 diagnosis of any mental health disorder.
- Ages between 18-65
- Have a basic grasp of English
- No current substance/ alcohol abuse
- No evidence of a brain injury

2.3.2. Sample Pool and Recruitment Procedure

The patient sample was recruited from the Community Mental Health Team NHS in Peterborough. The Responsible Medical Officer/ Mental Health Professionals were asked to identify patients fitting inclusion criteria for the study as well as suitability from a clinical point of view. The Patients' Care Programme Approach Key Worker was consulted regarding appropriateness of inclusion within the study in terms of their current mental health to ensure no deterioration in mental state as a result of the study. A Mental Health Professional who had contact with them as part of their normal care initially approached all patients to see if they wanted to talk to a researcher about taking part in a study. If the patient expressed interest in participating they were then contacted by the researcher for an initial meeting to provide information and answer questions about the study. Each volunteer was given an information sheet to consider and to discuss with other people not involved in the study. All volunteers were informed that their involvement was entirely voluntary, that they may choose to withdraw at any time, without giving a reason, and that this was not going to affect the care they receive from the Trust. The patients were then contacted by the researcher the

following week to obtain consent from those willing to participate. The participant's key worker was informed that the patient had chosen to take part in the study.

In studies comparing three groups of patients with similar measures the sample sizes of the group are n=11, n=13 and n=13 (Kinderman, Prince, Waller & Peters, 2003). On this basis it can be assumed that similar sample sizes to those of Kinderman, et al. (2003) can be expected to give adequate statistical power to evaluate the research hypothesis in the current study.

2.4. DEVELOPMENT OF THE SIMULATION

The interactive video task was developed following the use of several methodologies (computer software and DVD) and was piloted by recruiting volunteers from the University of Hertfordshire before producing the final version. The task was first conceived as a version of the original computer software created by Freeman et al. (2004b). Therefore, it was thought appropriate that the department of engineering from the University of Hertfordshire be contacted. Two postgraduate engineers helped to create the first version of the simulation. This first software contained four computer characters or avatars, which were interacting in a house. The outcome of the first version suggested that the characters were too artificial and 'robot-like' and that a larger design input was necessary to make the social situation more credible. However, due to the limitations of time and resources it was thought more appropriate to use commercial software that was already available and which could provide more sophisticated characters. After a search on the internet, the 'SIMS' programme was chosen as a reliable source of characters and background which would create the computer simulation. Alternatively, the issue of the limitations of avatars to convey human emotions suggested the creation of a video task with real characters. Several versions of both types of simulations were created (a

169

total of 3 in each category) until the more sophisticated ones were obtained. The two final versions were tested at the University of Hertfordshire with 10 volunteers. 5 volunteers experienced the computer simulation first and then the video task, whilst 5 experienced the video task first to counterbalance the effect of the order of exposure. The volunteers were asked to give an account about the individual characters that were seen on the screen in terms of suspiciousness and paranoid-like ideas using a rating scale from 0 to 10. The result was that an overwhelming majority of volunteers were impressed with the video task which had the real characters. The average score of this simulation was 7 out of 10 points. The computer simulation obtained an average of 4 out of 10 points. A debrief with the participants also suggested that most of them felt that the faces made a significant contribution to make them feel 'more or less suspicious or concerned' and that the avatars were significantly less credible than the real characters. This outcome suggested the selection of the video task with real characters as the final simulation for the study.

Freeman and colleagues' (2004b) description of the emotional content of the story involved in the simulation they used, was utilized to write the specific script that every character from the video had to follow. Freeman et al. (2004b) describe in their paper that their avatars were displaying neutral and ambiguous emotional features. According to them, the concepts of neutrality and ambiguity were constructed as behaviours that did not reveal signs of violence or threat, but that still showed a degree of emotional expression such as looking at the visitor to the house straight in the eye or not, and could express no emotion, express interest, indifference or produce a smile. Therefore, the actors were instructed to limit their emotional expression to the ones that Freeman et al. (2004b) recommended.

The original simulation created by Freeman et al. (2004b) allowed the participant to explore the environment in any order or direction, and made every participant's experience slightly different. This would imply that the each participant could

spend more or less time with the avatars thus making each exposure unique and then reducing the internal validity of the study. The video of the present study was designed as an interactive task in which the participant visits a house and is allowed to choose to enter the kitchen or the lounge of the house in order to create a realistic feeling of freedom of movement. However, whatever the choice, the participant always has to follow the same 'path' in which he or she meets the inhabitants of the house and they always react in the same way to each participant. This restriction was thought to allow more validity to the task as it provided with a more standardised set of stimuli. However, given the fact that the original idea of Freeman et al. (2004b) was to capture a social situation in 'real time', it was thought that the choice of going to the kitchen or the lounge would make the participant see the characters doing different things depending on which room they entered first. Consequently, if one participant (ramdomly) chose to enter the lounge first, instead of the kitchen, a different path with slightly different behaviours from the part of the actors is activated when the participant goes to it, compared to those who choose going to the kitchen first. This would enable the simulation to recreate a 'real time' experience such as the ones that a virtual reality environment provides, but with the restriction that only two possibilities are available thus the validity of the study is more robust.

2.5. PROCEDURE OF THE SIMULATION

The data collection involved just one session. The initial part of the session gathered demographic data (e.g. gender, age, ethnicity, etc) and a conversation about the project (e.g. details about the simulation and questionnaires) and about the participant (e.g. the participant's own understanding of their difficulties). To prevent priming of reactions to the simulation, participants were not informed that the research was studying paranoid thoughts.

Participants were first instructed in the use of the mouse and keyboard, and given a chance to practice if they were unfamiliar. Then participants received the instructions: *Please explore this house, and try to form some impressions of what you think and how you feel about the people in the house and what they think about you*. Although the filmed environment was a video, the participants were able to choose where to go (e.g. kitchen or lounge). There were four characters in the film, two men and two women. The characters showed neutral and ambiguous behaviours (e.g. looking, talking to each other). After the instructions participants were presented with the filmed video environment and were ask to explore using a mouse to enter different rooms of a house. After watching the video, they were also asked to complete self-report questionnaires in relation to the task and other questionnaires related to their biography, delusional thoughts, anxiety and depression levels. A DVD containing the interactive video task can be found in Appendix 12.

All the participants experienced the presentation of the video environment but no manipulation of the value of this factor occurred across groups.

After completing the questionnaires, the participants were invited to continue with a semi-structured interview which gathered information about the participants' biography and main events related with their mental health difficulties. This lasted approximately 1 hour. Information elicited during the interview was grouped into categories in terms of the aetiology of the mental health difficulty (e.g. childhood trauma, drug use, adult trauma, etc), the clinical impression of the researcher (e.g. the participant conceals symptoms, shows clear symptoms of illness).

2.6. MEASURES

Beck depression inventory – Second Edition (BDI-II) (Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report instrument for measuring the severity of

depression in adults and adolescents aged 13 years and older. This version of the inventory (BDI-II) was developed for the assessment of symptoms corresponding to criteria for diagnosing DSMIV depressive disorders, giving an overall severity scale (See Appendix 5).

Beck anxiety inventory (BAI) (Beck, Epstein, Brown & Steer, 1988). The BAI is a 21 item scale that measures the severity of anxiety in adultos and adolescents. The BAI can be used to identify anxiety and somatic symptoms, giving an overall severity scale (See Appendix 6).

Trust questionnaire. Participants will be asked to rate the level of trust that they would give to the avatars presented in the computer-generated scenario, on a Likert scale. The questionnaire consists of 5 items. (See Appendix 7 for details of the items ratings).

Power questionnaire. Participants were asked to rate the power of the filmed characters from the simulated environment on a Likert-type measurement format The questionnaire consists of 6 items. (See Appendix   7 for details of the items ratings).

Faces Questionnaire. Participants were asked to describe the emotional state of the actors' faces on a Likert-type measurement format. The questionnaire consists of 11 items. (See Appendix 8 for details of the items ratings). The scoring of this questionnaire is reversed for positive emotions. For instance if a participant ticked the box indicating that the character was happy (e.g. very often true) that would score 0 points. However, if the participant responded to the question of whether the character was angry or not and the response was positive (e.g. very often true) the score would be 4.

Details of threat questionnaire (Freeman, Garety & Kuipers, 2001). Questionnaire designed to identify the harm that the participant believes is going

to happen in relation to the filmed characters that they can see during the simulated social scenario. The questionnaire consists of 10 items. (See Appendix 9 for details of the items ratings).

2.6.1. Questionnaire Design

The three questionnaires that were designed for the study were devised following standard survey methods (Hague, 1993; Oppenheim, 1992; Moser & Kalton, 1992). In this regard, general principles of questionnaire design were followed such as the study of the questions wording, the piloting of the questionnaires, the appropriate number of items and the type of scale to be used (e.g. ordinal, fixed response, Likert type). In relation to the piloting of the questionnaires, a small number of interviews was carried out in the field to see if there were aspects of the questions which did not work (6 in total).

2.6.2. Validity of the Scales Generated for the Purpose of the Study

With regards to the three scales that were created ad hoc for the purpose of the study (trust, power and faces questionnaires) a validity analysis was carried out in order to explore the extent to which the measures used were consistent or reliable. Cronbach Alpha analyses were conducted with the data. The results suggested that the Trust and Power Questionnaires had an Alpha of .86 and .70 respectively. The Faces Questionnaire obtained a .65 Alpha value. The results suggest that the Trust and Power Questionnaires seemed to be reliable and that although the Faces Questionnaire is below the .70 recommended value, it seems that the observed value is not substantially too low to be considered unreliable. In fact, Kline (1999) indicates that when dealing with psychological constructs values below .7 can realistically be expected.

CHAPTER 3. RESULTS

OVERVIEW

The results of the study are reported in six sections. An initial section is dedicated to the way the data has been generated and contains considerations related to the demographics of the participants. Following this, the main findings are discussed with reference to the hypotheses and research questions. Section 2 studies the presence of emotional disorders in the sample (anxiety and depression). Section 3 describes the differences between paranoia variables in all groups. Section 4 describes the effect of the group differences in all the trauma variables. Section 5 is dedicated to comment on the findings related to the emotional processing of faces. Section 6 is dedicated to the statistical power analysis of the study.

3.1. DEMOGRAPHIC DATA

40 participants were recruited to the study. Data generated from the participants' completed questionnaires were analysed. The data was analysed statistically using SPSS. The statistics utilized involved the use of parametric and non-parametric procedures.

The Anxious Group (Group 1) comprised 11 participants. Current diagnosis was obtained from the patient's medical file. The diagnosis was made by the consultant psychiatrist from the service. 2 were diagnosed with panic disorder, 3 were diagnosed with agoraphobia, 4 were diagnosed with obsessive-compulsive disorder and two were diagnosed with post-traumatic stress disorder.

The Psychotic Group (Group 2) comprised 15 participants. Current diagnosis was obtained from the patient's medical file. The diagnosis was made by the consultant psychiatrist from the service. All participants presented with paranoid delusions. 2 were diagnosed with delusional disorder, 3 with schizoaffective disorder and 10 with schizophrenia.

The Normal Group (Group 3) comprised 14 participants. All participants reported never having attended mental health services or receiving medical or psychological treatment for psychological difficulties.

Variable	Sample Size (%) (n=40)	Group 1 (Anxious)	Group 2 (Psychotic)	Group 3 (Normal)	Statistic
Gender					X² p=.649
Male	29 (72.5%)	7 (63.6%)	12 (80%)	10 (71.4%)	
Female	11 (27.5%)	4 (36.4%)	3 (20%)	4 (28.6%)	
Ethnicity					X² p=.470
White European	33 (82.5%)	10 (90.9%)	11 (73.3%)	12 (85.7%)	
Other	7 (17.5%)	1 (9.1%)	4 (26.7%)	2 (14.3%)	
Age					F-ratio p=.758
Mean	35.5	37.27	33.93	35.21	
Range	22-58	22-56	23-54	23-58	
SD	11.05	12.28	9.58	12.00	
Higher Education					X² p=.183
Yes	8 (20%)	1 (9.1%)	2 (13.3%)	5 (35.7%)	
No	32 (80%)	10 (90.9%)	13 (86.7%)	9 (64.3%)	
Employment					X² p=.679
Employed	15 (37.5%)	1 (9.1%)	7 (46.7%)	7 (50%)	
Unemployed	24 (60%)	10 (90.9%)	7 (46.7%)	7 (50%)	
Retired	1 (2.5%)	0 (0%)	1 (6.6%)	0 (0%)	
Marital Status					X² p=.183
Single	22 (55%)	6 (54.5%)	9 (60%)	7 (50%)	
Married	18 (45%)	5 (45.4%)	6 (40%)	7 (50%)	
Divorced/Separated	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Widowed	0 (0%)	0 (0%)	0 (0%)	0 (0%)	

Table 1. Sample Characteristics.

Statistical analysis showed that the sample was matched for age. The mean age was 37.3 years (range 22-56, SD 12.28) for the anxiety group, 33.9 years (range 23-54, SD 9.58) for the psychotic group and 35.2 years for the normal group (range 23-58, SD 12). A one-way ANOVA test found that the ages of the participants were not significantly different between groups $F(2, 37)=.279$, $p=.758$.

In terms of gender, the anxious group comprised 7 males (63.6%) and 4 females (36.4%). The psychotic group comprised 12 males (80%) and 3 females (20%). The normal group comprised 10 males (71.4%) and 4 females (28.6%). A Chi squared indicated that there was no significant difference between groups in terms of gender differences $X^2(2)=.865$, $p=.649$.

With regards to ethnicity, 82.5% of the participants were classified as white Europeans. Two male patients categorised themselves as 'mixed race' white European/ black Afrocaribbean. Two male patients and two male non-patients defined themselves as being of Asian origin. One male patient categorised himself as black African. Although all the non-white Europeans were male, a Chi squared showed that there were no differences between groups in terms of ethnicity $X^2(2)=1.512$, $p=.470$.

In relation to educational level, 80% of the participants did not receive higher education. A large number of patients had not received higher education (anxious group 90.9%; psychotic group 86.7%), and in the normal group those with higher education were almost twice the number of those who had not received higher education (64.3%). A Chi squared indicated that there were no significant differences between groups in terms of education $X^2(2)=3.396$, $p=.183$.

The demographics for employment status indicated that 60% of the participants were unemployed. A greater proportion of the anxious group was unemployed

(90.9%), whereas almost half of the psychotic (46.7%) and half of the non-patient group were unemployed (50%). There was one participant in the psychotic group who was of retired age. A Chi squared indicated that there were no differences between groups in terms of education $X^2(4)=2.310$, $p=.679$.

With regards to the marital situation of the participants, the proportion of married participants (45%) was slightly lower than the single ones (55%). This pattern also occurred in the anxious (45.4%) and psychotic group (40%), whereas in the normal group there were an equal number of married and single participants. A Chi square showed no significant differences between groups in terms of marital status $X^2(2)=3.396$, $p=.183$.

3.2. THE PRESENCE OF EMOTIONAL DISTURBANCES IN THE PARTICIPANTS

3.2.1 Anxiety

In the present section the different groups are compared in terms of anxiety levels. As can be appreciated from Table 2, the results from the Beck Anxiety Inventory (BAI) show that both clinical groups' means score at a moderate level of anxiety, whereas the normal group's scores suggest that this group scores are borderline between the minimal level and the mild level range of anxiety (see Table 3 for normative data on anxiety).

Group	Mean	N	Std. Deviation
Anxious	24,90	11	8,23
Psychotic	23,93	15	12,73
Normal	7,71	14	1,72
Total	18,52	40	11,88

Table 2. Descriptive statistics for the Beck Anxiety Inventory in the 3 groups.

Anxiety Level	BAI Score
Minimal Level of Anxiety	0-7
Mild Anxiety	8-15
Moderate Anxiety	16-25
Severe Anxiety	26-63

Table 3. Levels of Anxiety and Scores as Described by the Beck Anxiety Inventory.

Figure 1 shows the distribution of anxiety levels in the three groups. The box plot allows for a graphic demonstration of central tendency and variability. The line in the middle of the box represents the median score of anxiety. The length of the box is the interquartile range (that is, the top and bottom of the box represent the 25th and 75th percentiles, respectively). The lines from the top and bottom of the box (called 'whiskers') represent the smallest and largest values that are not outliers or extreme scores. As can be seen from the box plot the variation in anxiety is considerably greater in the psychotic group than in the anxiety and normal groups.
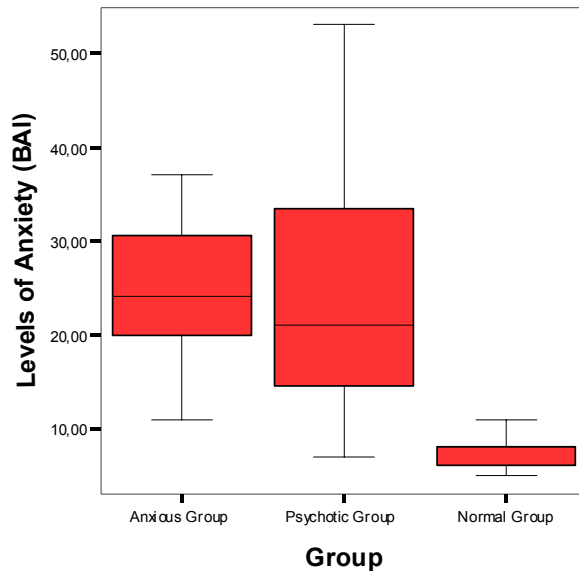
FIGURE 1. Distribution of anxiety levels for groups.

The data did not meet the assumption for homogeneity of variances and therefore it was analysed using non-parametric alternatives. The chosen statistic was Kruskal-Wallis which indicated that there was a significant group effect $H(2)=24.266$, $p<.05$. Post-hoc tests using Mann-Whitney statistic were conducted. A Bonferroni correction was applied and so all effects are reported at a .0167 level of significance. It appeared that the clinical groups were similar to each other ($U=71$, $p=.283$, $r=-.117$) and the non-clinical group was different to the anxious ($U=.5$, $p<.001$, $r=-.842$) and to the psychotic group ($U=9$, $p<.001$, $r=.781$).

3.2.2. Depression

A measure of depression was sought for the study to reflect the degree of mood disturbance that was expected to be observed in the participants showing paranoid thoughts. Table 4 indicates that both clinical groups (anxious and psychotic) scored at a moderate level of depression whereas the normal group

scored below detectable clinical levels of depression (see Table 5 for normative data).

	N	Mean	Std. Deviation
Anxious Group	11	23,09	10,70
Psychotic Group	15	26,46	10,39
Normal Group	14	9,35	6,55
Total	40	19,55	11,90

Table 4. Depression (BDI) descriptives.

Mood Level	Beck Depression Inventory (BDI) Scores
Minimal Level of Depression	0-13
Mild Depression	14-19
Moderate Depression	20-28
Severe Depression	29-63

Table 5. Levels of Depression and Scores as Described by the Beck Depression Inventory.

Figure 2 shows the distribution of depression levels in the three groups. As can be seen from the box plot, the variation in depression is greater in the anxiety group than in the psychotic and normal groups. The psychotic group has an outlier with a very low score and the normal group has an extreme score that reaches clinical the level of mild depression.
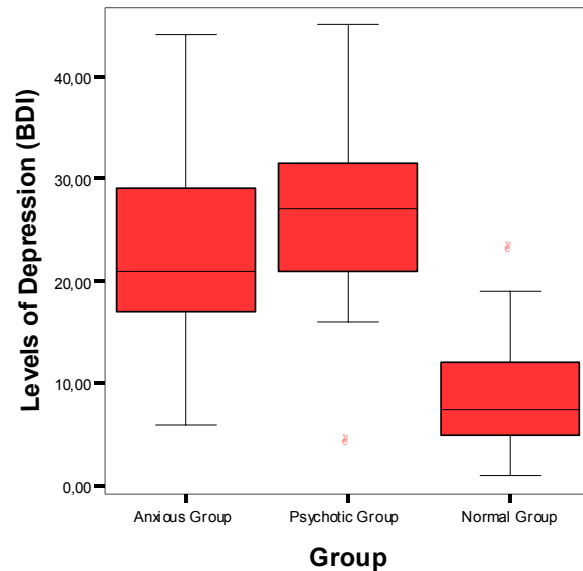
FIGURE 2. Distribution of depression levels for groups.

A one-way ANOVA was conducted to evaluate the relationship between the presence of depression and the different groups of participants. The independent variable, the group, included two clinical groups (anxious and psychotic) and a third group of normal participants. The dependent variable was the level of depression that the participants manifested after completing a BDI questionnaire. The ANOVA was significant, $F(2, 37)=13.27$, $(p<.001)$, $r=.646$. The Levene test of homogeneity of variances indicated that this condition was met.

Follow-up tests using planned contrasts were conducted to compare clinical versus non-clinical groups and between clinical groups. There was a significant difference in the means between the clinical groups and the normal group $t(37)=4.966$, $p<.001$, $r=.63$, but there was no significant difference between the clinical groups $t(37)=-.912$, $p>.05$, $r=.02$. Follow up tests using the Tukey test indicated that there were significant differences between the normal group and both clinical groups, but no significant difference between the clinical groups.

3.2.3. Summary of Findings.

The expectation of the study of finding clinical anxiety and depression in the clinical groups and not in the non-clinical group was supported.

3.3. PARANOID THINKING

The first research question inquired whether a simulated social encounter task could elicit comparable levels of paranoid-like thoughts between patients with anxiety and patients with paranoid delusions. Within this question, the first hypothesis predicted that the simulated environment would be sensitive enough to detect presence of suspiciousness and paranoid thinking in the clinical participants. The second hypothesis predicted that patients with anxiety disorders would show similar levels of paranoid-like thoughts as patients with psychosis, as measured by the responses to the simulated environment.

Multivariate analysis of variance (MANOVA) was conducted in this section to measure paranoid thinking as a multidimensional construct that comprises five dependent variables; perceived threat, perceived hostility, trust, power and emotional processing of faces. On this basis a MANOVA was used to compare the three groups of the study (anxious, psychotic and normal).

Figure 3 shows the variation of scores between groups for the five dimensions of paranoid thinking. As can be appreciated, the clinical groups (1 and 2) have a similar range and large overlap. At the same time they are distant from the non-clinical group, although group 2 (psychotic group) is slightly below group 1 (anxiety group). The variation in group 2 produced by the Power (PQ) and Faces questionnaires (FQ) is closer to the non-clinical group and slightly more separated from the anxious group.

FIGURE 3. Variation of scores between groups for the five dimensions of paranoid thinking.

A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of the clinical presentations of the participants on the five dimensions of paranoid thinking. Significant differences were found among the three clinical presentations on the dependent measures, Pillai's Trace=.987 $F(10, 68)=6.62$, $p<.001$. The effect size was obtained from the multivariate η^2 based on Pillai's Trace which was quite strong, .493. The results indicate that there was a main effect of group on the different dimensions of paranoia.

The Levene's test of equality of variances for each dependent variable suggested that perceived threat and power did not meet the homogeneity criteria. Due to this anomaly the Welch F-ratio was calculated for the Threat and Power questionnaires data. However, they were also significant.

Individual ANOVAs were carried out for those paranoia dimensions that did not violate the assumption of homogeneity. The results suggest that there was a main effect of group on the levels of paranoid-like thoughts experienced by the

184

participants when they answered the VR questionnaire (Perceived Hostility) $F(2, 37)=31.62$, $p<.05$, $r=.631$, the Trust questionnaire (Trust) $F(2, 37)=38.13$, $p<.05$, $r=.673$, and the Faces questionnaire (Faces) ($F(2, 37)=33.67$, $p<.05$, $r=.645$.

With regards to the relationship between the dependent variables (paranoia dimensions) the between subjects SSCP matrix indicated that the sums of squares for the error SSCP matrix were smaller than the group SSCP matrix. This pattern suggested that there was not a significant relationship between dependent variables.

Post-hoc analyses using the Tukey test were carried out on the independent variable group to compare each group with the previous three paranoia dimensions. The results revealed that being in the psychotic or anxious groups significantly elevated all the paranoid thinking measures, but the same did not happen in the normal control group.

Due to the problems that the Threat and Power questionnaires had with homogeneity it was decided to carry out a non-parametric test with Threat and Power. The chosen statistic (Kruskal-Wallis) indicated that the participants' response to the Threat questionnaire was significantly affected by group ($H(3)=26.019$, $p<.001$). Mann-Whitney tests were used to follow up this finding. A Bonferroni correction was applied and so all effects are reported at a .0176 level of significance. It appeared that the participants' response to the Threat questionnaire were no different when the clinical groups were compared ($U=80$, $r=-.025$, $p=.454$). However, the non-clinical group scores in the Threat questionnaire were significantly lower than the anxious ($U=7$, $r=-.865$, $p<.001$) and the psychotic group ($U=0$, $r=-.903$, $p<.001$).

The participants' response to the Power questionnaire was also significantly affected by group ($H(3)=28.455$, $p<.001$). It appeared that the participants' response to the Power questionnaire were no different when the clinical groups

were compared (U=43.5, r=-.39, p=.021). However, the non-clinical group's scores in the Power questionnaire were significantly lower than the anxious group (U=0, r=-.846, p<.001) and the psychotic group (U=0, r=-.852, p<.001).

3.3.1. Summary of Findings

The first hypothesis predicted that the simulated environment would be sensitive to the presence of suspiciousness and paranoid thinking in the clinical participants. This hypothesis was confirmed by the results. The second hypothesis predicted that patients with anxiety disorders would show similar levels of paranoid-like thoughts as patients with psychosis as measured by the responses to the simulated environment. This hypothesis was also supported.

3.4. THE PRESENCE OF CHILDHOOD TRAUMA IN THE PARTICIPANTS

The second question of the study explored the importance of childhood trauma in the development of paranoid thinking. According to the Threat Anticipation Model, trauma can be a contributor of several potential factors in the formation of paranoid thinking. However, the model does not specify the extent of that contribution. Read, van Os, Morrison and Ross (2005) suggest that there is supporting evidence indicating that the more severe the trauma, the more likely it is for the victim to develop psychosis. The third hypothesis expected to find that trauma will be more severely represented in psychotic participants than in anxious ones.

Figure 4 shows the variation of scores between groups for the five dimensions of childhood trauma. As can be appreciated, the error bars of the clinical groups (anxious and psychotic) have a similar range and large overlap. They are distant from the non-clinical group, although group 2 (psychotic group) overlaps with the normal group (3) in emotional abuse (CTQEA), physical abuse (CTQPA) and

sexual abuse (CTQSA) dimensions and group 1 (anxious group) overlaps with group 3 in physical abuse (CTQPA) and sexual abuse (CTQSA). Sexual abuse (CTQSA) in the anxious group has the largest variation.
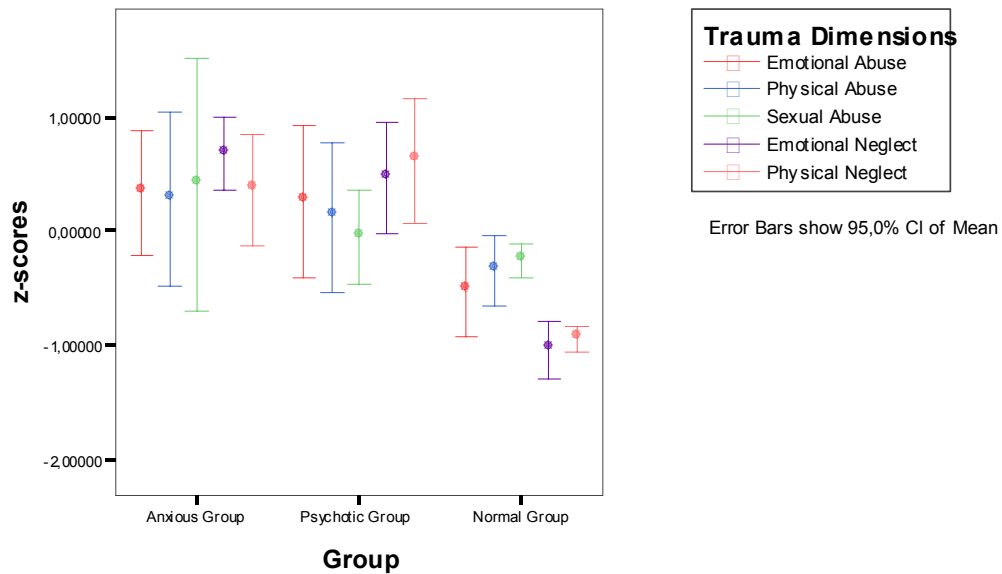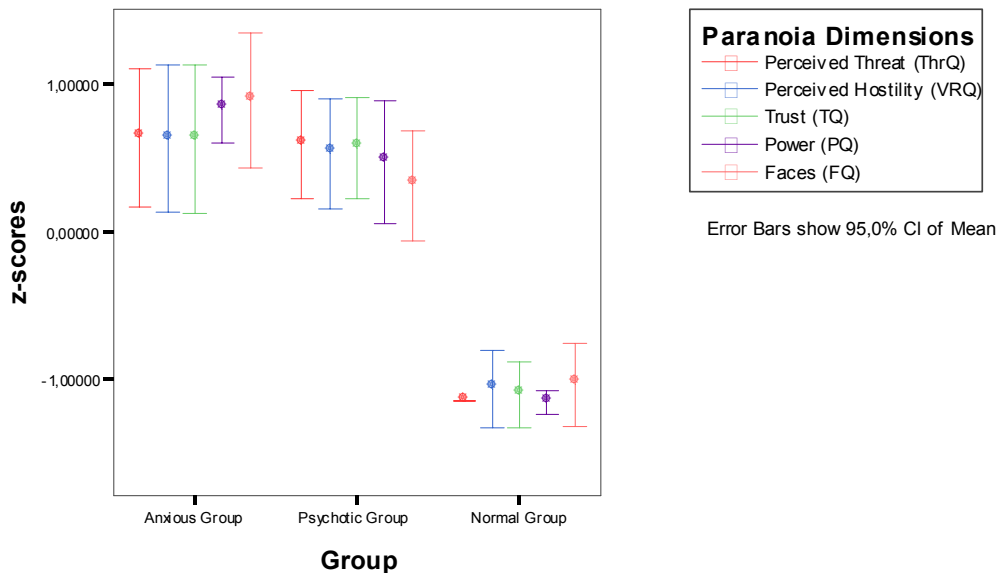

FIGURE 4. Variations of scores between groups for the five dimensions of childhood trauma.

A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of the clinical presentations of the participants on the five dimensions of childhood trauma. Significant differences were found among the three clinical presentations on the childhood trauma measures, Pillai's Trace=.810, $F(10, 68)=4.63$, $p<.001$. The effect size based on Pillai's Trace was strong, $\eta^2=.405$. However, the Box and Levene's test of homogeneity failed. Therefore, the results indicating that the groups had a significant effect on the different dimensions of childhood trauma should be interpreted cautiously.

With regards to the relationship between the dependent variables (trauma dimensions) the between subjects SSCP matrix indicated that the sums of

squares for the error SSCP matrix were bigger than the group SSCP matrix. This pattern suggested that there was a significant relationship between dependent variables. Discriminant analysis was carried out to explore this relationship further. The results indicated that emotional and physical neglect were the variables that had the greatest contribution to the variates.

Due to the problems that the sample had with the homogeneity tests, it was decided to carry out separate non-parametric tests with each trauma dimension using the Kruskal-Wallis test. This revealed that the participant's score on the emotional abuse dimension was not affected by group H(2)=5.758, p=.056. Mann-Whitney tests were used to follow-up this finding. It appeared that the participant's responses to the emotional abuse dimension of the childhood trauma questionnaire were no different when the clinical groups were compared (U=81.5, p=.485, r=.-10). Also, differences were not found when the psychotic and non-clinical group (U=66.5, p=.047, r=-.31) were contrasted. However, the non-clinical group scores in the emotional abuse dimension were significantly lower than the anxious group (U=32, p<.001, r=-.49).

For the physical abuse dimension, Kruskal-Whallis revealed that the participants' scores were not affected by group H(2)=1.332, p=.503. Follow ups of this finding suggested that no differences were found between the clinical groups (U=75, p=.352, r=-.08), anxious and normal groups (U=56.5, p=.129, r=-.231), or psychotic and normal (U=89, p=.244, r=-.136).

With regards to the sexual abuse dimension, Kruskal-Whallis revealed that the participants' scores were not affected by group H(2)=2.125, p=.372. Follow ups of this outcome indicated that there were no differences between the clinical groups (U=70.5, p=.214, r=-.18), anxious and normal groups (U=61, p=.117, r=-27) or psychotic and normal (U=97.5, p=.259, r=-.115).

The Kruskal-Wallis test revealed that the participants' scores on the emotional neglect dimension were affected by group H(2)=21.644, p<.001. Mann-Whitney tests were used to follow-up this finding. It appeared that the participants' response to the emotional neglect dimension of the childhood trauma questionnaire were no different when the clinical groups were compared (U=81, p=.475, r=.-15). However, the non-clinical group scores in the emotional abuse dimension were significantly lower than the anxious group (U=.5, p<.001, r=-.85) and the psychotic group (U=19, p<.001, r=-.71).

Finally, the Kruskal-Whallis test exposed that the participants' scores on the physical neglect dimension were affected by group H(2)=23.857, p<.001. Mann-Whitney tests were used to follow-up this finding. It appeared that the participants' response to the physical neglect dimension of the childhood trauma questionnaire were no different between clinical groups (U=70, p=.262, r=-.12). However, the non-clinical group scores in this dimension were significantly lower than the anxious group (U=1, p=.001, r=-.85) and the psychotic group (U=11, p<.001, r=-.78).

3.4.1. Trauma and Anxiety

When Anxiety (BAI) was included as a covariate in the model, it had also a main effect, Pillai's Trace=.374, F(5, 32)=3.83, p<.05, with a strong effect size, η^2=.374. However, when individual ANOVA's were calculated, anxiety did not have an effect on emotional abuse, F(1, 36)=3.81, p=.059, r=.095, physical abuse, F(1, 36)=.42, p=.52, r=.01, sexual abuse F(1, 36)=.09, p=.76, p=.002, or emotional neglect, F(1, 36)=3.94, p=.05, r=.1. In spite of this, anxiety had an effect on physical neglect F(1, 36)=16.28, p<.001, r=.31.

3.4.2. Summary of Findings

The aim of this section was to study the different dimensions of childhood trauma variables in relation to the clinical and non-clinical groups to explore hypothesis 3 which stated that the psychotic group would report more severe early traumatic experiences than the anxious group. The results suggest that emotional and physical neglect during childhood seem to be experiences mainly related to the life of the clinical participants. However, the psychotic group did not appear significantly more traumatised in these dimensions than the anxious group. In this respect hypothesis 3 was not supported.

Hypothesis 4 predicted that those exhibiting a higher level of paranoid-like ideation elicited by the simulated environment would report higher levels of trauma. This hypothesis recalls the results from section 3.3. In this section the results obtained revealed that the clinical groups showed more paranoid-like thinking than the non-clinical group, but the psychotic group did not show more paranoid-like thinking than the anxious group. Conversely, at a visual level, the anxious group's scores appeared more elevated in this dimension. In section 3.5 it was found that although graphically the psychotic group was more traumatised than the non-clinical group, it could not be differentiated from that group in all trauma dimensions except emotional and physical neglect in which the psychotic group showed more traumatic experiences. Although visually very similar, the anxious group experienced trauma in more dimensions (one more) than the psychotic group and in those dimensions that were shared with the psychotic group, their scores were not lower than this group. Therefore, hypothesis 4 was supported by the results as both clinical groups showed equal levels of paranoid-like thinking and trauma.

3.5. EMOTION PERCEPTION (FACES)

The literature in psychosis suggests that patients have more difficulties in detecting emotional expressions in human faces than normal controls or other patients (Combs, Michael and Penn, 2006). In section 3.3 data was obtained in relation to the performance of the participants on emotion perception when the participants were asked to describe the four characters of the film. In the present study, the psychotic group showed significantly more sensitivity to neutral faces than normal controls. Furthermore, the anxious group showed more sensitivity than the psychotic group when the data is examined graphically. However, when they were compared, there were not statistically significant differences. Therefore, the present study shows new findings in that psychotic people seem to perceive strong emotions (e.g. rejection, threat) in people showing neutral faces (rather than showing a deficit on emotion perception). Nevertheless, these results also suggest that there may be a deficit in accuracy on emotion perception.

3.6. POWER CALCULATION

Post hoc power calculations were carried out using a measure of paranoid thoughts. The chosen scale was the Details of Threat Questionnaire which gave a power estimate of 1 for the anxious group versus the normal group (Cohen's d=3.58) and also 1 for the psychotic group versus normal group (Cohen's d=3.72). The results are superior to the recommended standards of adecuacy (power=0.80) and suggest that the probability is good that the statistical tests will lead to the rejection of the null hypothesis (Field, 2005). In other words, the outcome of the power calculation implies that if a difference between the clinical and non-clinical groups exists, it is very likely that the statistical tests will find significant differences between them.

CHAPTER 4. DISCUSSION

OVERVIEW

The present chapter covers in its first section a discussion of the main findings of the study. The second section considers these findings in the context of the literature in the field. Section three is dedicated to contrasting the results of the study with the cognitive models of paranoid delusions. Section four discusses the clinical implications of the study. Section five focuses upon the limitations of the study. Section six suggests ideas for future research and the final section summarises the conclusions of the study.

With regards to the nature of the findings, there are quantitative and qualitative data of the study to be discussed in the present chapter. However, the qualitative information that has been obtained in the study is the product of clinical impressions that have an anecdotal value/nature and do not arise from a pre-planned methodological approach. Therefore, the interpretations that stem from these sort of data are tentative and do not constitute a robust source of evidence to evaluate the hypotheses and models described in chapter 1.

4.1. MAIN FINDINGS

4.1.1. Levels of Anxiety in the Participants

There was only one measure of anxiety. The Beck Anxiety Inventory was used for this purpose. Psychotic patients reported moderate levels of anxiety. However, this result was accompanied with an ample variability in that group. Anxious patients also reported moderated levels of anxiety with a lower degree of

variability. The normal control showed low levels of anxiety that did not reach clinical significance.

With regards to the more qualitative aspect of the study, it is worth noting that during the sessions with the participants it was noticeable that a significant number of subjects from the psychotic group showed visible symptoms of anxiety. This clinical impression was based on observations of the participant's body language (e.g. stiffness in posture, minimal facial expressions or avoidance of eye contact with researcher), verbal communication and psychophysiological changes (e.g. sweating). The psychotic participants asked more questions in relation to the project, the researcher, the film and the potential effect that the film would have on them. They apparently also manifested more arousal when watching the film than the other participants. Another significant aspect of the sessions with the psychotic group was that some participants who were visibly anxious denied that they were actually feeling anxious. They also seemed to have difficulties in conceding that they suffered from paranoia. These aspects of the participants' behaviour were not so apparent in the anxious group and not present in the normal control group.

4.1.2. Levels of Depression in the Participants

Levels of depression were measured using the Beck Depression Inventory. Both clinical groups, the paranoid and anxious groups showed moderate levels of depression. These groups showed a similar variability in their levels of depression. The normal control group showed no symptoms of depression.

The clinical impressions obtained during the interview and discussion with the participants in relation to this variable did not differ greatly from one clinical group to the other.

4.1.3. Sensitivity of the Simulated Environment

Hypothesis 1 predicted that the simulated environment experienced by the participants in the study would be sensitive to detect the presence of paranoid-like thinking in the clinical participants.

It was assumed that paranoia is a multidimensional concept. Therefore, five different measures of paranoid thinking were used in the study. The findings of the study show that the simulated social encounter task was able to elicit paranoid-like thinking across the different measures, about the filmed characters that the participants watched during the experimental sessions. The average of paranoid-like thinking observed in the clinical participants was significantly higher than the normal controls. The level of paranoid-like thinking that was found in the clinical participants was higher than the control group in all the paranoia dimensions that were used in the study. The proportion of paranoid-like thinking expressed by the psychotic group and the anxious group was statistically similar. With regards to the relationship between the dependent variables (the different paranoia dimensions), the data suggested that there were no significant relationships between them. Therefore, this finding suggests that the questionnaires used in the study were representing independent dimensions of paranoia.

In summary, the novel task that was used for this study proved to be able to elicit paranoid-like thinking in the clinical participants (psychotic and non-psychotic), but not in normal participants. However, the task could not distinguish the psychotic from the anxious group in terms of paranoid-like thinking in any of the dimensions utilized in the study. In spite of this, verbal comments from the participants and clinical impressions indicated that the psychotic participants were more able to get immersed in the film than the rest of the participants of the study.

4.1.4. Levels of Paranoid-Like Thinking in the Anxious Group

Hypothesis 2 predicted that participants with anxiety disorders would show similar levels of paranoid-like ideas as patients with psychosis as measured by the responses to the simulated environment.

The anxious group reported suspiciousness towards the filmed characters. Their level of suspiciousness was similar to the psychotic group, confirming this hypothesis. As it has been said, the level of paranoid-like thinking found in the anxious group was similar to the psychotic group in all the measures used for this purpose in the study. That is, similar levels of distrust towards the filmed characters (measured by the trust questionnaire), similar levels of perception of the filmed characters' power (power questionnaire), similar levels of sensitivity towards the filmed character's faces (faces questionnaire), similar levels of perceived threat from the filmed characters' (threat questionnaire) and similar levels of hostility perceived in the film in general (measured by the VR questionnaire).

Correlations were made to explore the relationship between anxiety and two paranoia dimensions within each clinical group. The results suggested that within the anxiety group, the anxiety measure correlated with the measure of hostility (VR questionnaire) but not with the measure of perceived threat (threat questionnaire). However, in the psychotic group, anxiety correlated with the threat questionnaire and not with the VR questionnaire. These results could be interpreted as an indication that the two clinical groups could be differentiated in terms of their beliefs about the characters. Perhaps this distinction reflects a different style of dealing with social information. In this respect and from a qualitative point of view, the narratives associated with the characters developed by psychotic patients during the interviews were more elaborated and seemed more consonant with their delusional system. This may have been reflected in the threat questionnaire. The anxious group, with no clinical symptoms of

delusional ideation may have reacted towards the filmed characters in a more global way as is constructed in the VR questionnaire. For instance, anxious people might interpret social situations as threatening, or people's judgements as worrying. However, psychotic people might focus their perception of threat towards specific individuals neglecting other aspects of the situation such as other individuals and their opinions, thoughts or actions.

Although generally speaking, the measures utilised in this study suggested that the clinical participants were similar in the way they responded towards the filmed characters, there were some findings suggesting that both groups were not completely equal. In addition to this, a number of clinical aspects that were revealed during the interviews with the participants indicated differences. The qualitative difference between both clinical groups was also apparent when they were asked why a certain character would look more threatening than the others. As an illustration of the remarkable difference between psychotic patients and the anxious ones, some examples will be given. For example, a psychotic participant expressed great concern about the older man in the film. However, he ignored the rest of the characters saying that they were all normal and pleasant people. When asked about why he was so worried about the old man he stated that the he whispered to him –"go away"-. This remark took place when the older man in the film seemed to say something (there is no sound in the film) to another character. The participant perceived that this communication was directed towards him and had a threatening meaning. He also explained that for him the man represented authority and power which were characteristics of people that he particularly feared. He disclosed the fact that he had had problems with figures of authority (e.g. police, father) and that he would become very anxious if he saw a policeman or a person with authority close to him. Therefore, when he was immersed in the film, he perceived that the older man was hostile and threatening, and that it would be very likely that a confrontation would happen between them. When asked in more depth about his delusional system and biography, the participant associated his beliefs to real life events that he had

experienced. Another psychotic participant expressed her concern about the young man in the film. She gave significant details about the kind of person that the young man was, and how threatening and arrogant he was. She described his personality as if she knew him and she became increasingly irritated and commented that she would attack him before anything could happen. In fact, she said that –attack is the best defence-. There were other cases in which the psychotic participants seemed to make an effort to disguise or mask their feelings about the film as if they preferred to inhibit their responses and maintain a 'low profile' towards the researcher. These impressions were made when, for instance, a participant would take a significant amount of time to think about the answers or became visibly puzzled or upset about the film however giving a different verbal account. The anxious participants' descriptions of the house and its inhabitants tended to be, in general, more tentative and more global and perhaps guide their attributions by more general feelings of social anxiety rather than more elaborated beliefs towards certain people. For example, the anxious participants would be generally wary about the situation and would perceive a general level of hostility and rejection in the house feeling wary of all the filmed characters, whereas the paranoid participants would tend to target specific individuals and make a more detailed narrative of the conflict between themselves and the filmed character. However, the anxious participants were still able to identify significant threats in specific filmed characters and coincided in many occasions with the psychotic group in choosing the young character as someone 'very threatening'.

Another aspect that seemed to distinguish psychotic participants was associated with their confidence about the attributions they made about the filmed characters. For instance, they were more reluctant to give up their impressions about the characters than the anxious group when they were told that the people who volunteered for the film were quite friendly and pleasant. However, the participants from the anxious and normal control groups were not so surprised when they were given general details about the real life of the characters. Yet, in

the anxious group some participants became visibly embarrassed when they learned that the characters were ordinary individuals.

4.1.5. Differences in Traumatic Experiences

Hypothesis 3 proposed that the psychotic group would report more severe early traumatic experiences than the anxious group.

Trauma experienced during childhood was measured using five different dimensions of the childhood trauma questionnaire. The analysis of the participants' responses to the childhood trauma questionnaire appeared to indicate that the clinical groups were generally more traumatised than the normal control group, and that the psychotic and anxious groups were very similar to each other in the level of traumatic experiences that they reported. However, sexual abuse and physical abuse did not differentiate any of the groups. Despite this, the clinical groups seemed to be more affected by emotional abuse, emotional neglect and physical neglect than the normal control group. When both clinical groups were compared in these three dimensions they were no different from each other. However, the anxious group seemed slightly more emotionally abused than the psychotic group. With regards to the relationship between the different measures of trauma, the multivariate analysis indicated that they were related, emotional and physical neglect were the variables that contributed more to this interaction. The overall findings of this aspect of the participants' experiences suggest that hypothesis 3 is not supported by the data.

4.1.6. Trauma and Paranoia

Hypothesis 4 predicted that those exhibiting a higher level of paranoid-like ideation elicited by the simulated environment would report higher levels of childhood trauma.

Section 3.3 described the results obtained from the analysis of the paranoia dimensions from the study suggesting that although statistically similar, the anxious group scored slightly higher in paranoia measures than the psychotic group. This result was similarly obtained with trauma dimensions, with the exception of physical neglect in which the psychotic group appeared slightly more traumatised. That is, although statistically similar, the anxious group scored higher in most of the traumatic experiences, whereas the psychotic group scored slightly lower than the anxious group and in one dimension (emotional abuse) it could not be distinguished from the normal control group.

The overall finding of this section supports the hypothesis that those scoring higher in paranoid ideation would report higher levels of traumatic experiences. A difficulty that this outcome presents though is the fact that the clinical groups were not differentiated statistically. An additional problem with this result is the fact that the anxious group appeared more paranoid and more traumatised than the diagnosed paranoid group.

4.1.7. Participants Responses to Neutral Faces

The analyses indicate that the clinical groups showed significantly higher levels of sensitivity to faces (revealed by the faces questionnaire) than the normal control group. At the same time, both were similar in the way they responded in relation to this variable.

4.2. THE FINDINGS IN THE CONTEXT OF THE LITERATURE IN THE FIELD

In broad terms, the findings of the present study cover a number of psychological aspects that are current issues in the literature about psychosis, paranoid thinking and anxiety disorders. In this section, these issues will be commented on along with the findings.

In relation to the novelty of the task that was used in the present study, the results indicate that participants were sensitive to the simulated environment. Therefore, the technology used in the study seems to be useful in the study of paranoid ideation. A previous study had made use of a simulation of a social encounter using virtual reality to study paranoid thinking (Freeman et al., 2005b) . In that study people had to enter a dark room and make use of special equipment (e.g. wearing a helmet). Although the results of these studies were very positive, the potential threat and distress that this technology may cause to psychotic individuals suggests that it may be difficult to use with clinical populations. However, the task involved in the present study is more simple and easy to transport, not involving the patient in any sophisticated technology that people do not have access to. Quite the contrary, the psychotic participants made proper use of the laptop and the interactive DVD employed in this study.

In both clinical groups, the present study found significant levels of depression, and in the psychotic group, anxiety was also present. This data suggests the presence of comorbid difficulties in psychotic and anxious individuals. These findings have also been reported previously by several studies (e.g. Mueser, Rosenberg, Xie, Jankowski, Bolton, Lu, Hamblen, Rosenberg, McHugo & Wolfe, 2008; Matejkowski, Cullen & Solomon, 2008; Ciaparelli, Paggini, Marazziti, Carmassi, Bianchi, Taponecco, Consoli, Lombardi, Massimetti & Dell'osso, 2007; Cassano, Pini, Saettoni, Rucci & Dell'Osso, 1998).

Another critical finding is the presence of persecutory thoughts in non-psychotic individuals. Previous studies have found that persecutory thoughts are observable in normal subjects (Freeman et al., 2005b; Freeman et al., 2003). The result of the study is consistent with these findings and supports the idea that paranoid thinking is expressed in the general population as a continuum.

The present study has shown that psychotic and anxious participants reported similar concerns when attending to a simulated social situation in which neutrality

predominated. Freeman (2007) suggests that external events in the form of ambiguous social information are a feature in persecutory ideation. If people with delusions have a tendency to seek less information in order to reach a decision, this could explain why the psychotic group appeared paranoid towards the simulated environment which offered little information (Garety & Freeman, 1999).

Hemsley (1993) developed a model of psychosis that predicted misinterpretation of ambiguous or degraded stimuli among people with psychotic symptoms and that has been supported by an experimental study (Margo, Hemsley, and Slade, 1981). Patients with anxiety disorders also tend to show negative interpretations of ambiguous stimuli that are relevant to their particular concerns. For instance, this effect has been observed in patients with panic disorder (Richards, Austin, & Alvarenga, 2001) and social phobia (Constans, Penn, Ihen & Hope, 1999). The present study elicited paranoid-like thinking in the clinical participants when they had to experience a simulation of a social situation with ambiguous or neutral connotations. Therefore, the study supports Garety and Freeman's observations, Hemsley's prediction and shows similar patterns of response towards ambiguity found in previous studies with anxious people.

An emotional aspect found in the literature associated with paranoid thinking is perceived power (Freeman, et al., 2001). In that study, Freeman and colleagues studied the emotional distress of individuals with paranoid thoughts. They found that over half of the sample rated their persecutors as extremely powerful. As in the previous research, the current study found that psychotic participants rated the filmed characters as significantly more powerful than did the normal control group. The anxious participants also reported similar levels of perceived power.

In relation to the previous point, from a qualitative point of view, the psychotic participants of the present study highlighted that specific aspects of their delusional system were associated with emotional distress. This link between persecutory delusions and affective disturbance has been reported previously,

201

and higher levels of delusional elaboration have been linked with higher ratings of perceived threat (Green, et al., 2006; Freeman et al., 2001). With regards to the anxious group, their concerns and worries related to their disorder were also linked to their biographies (Clark, 1986) and to the perceived threat in the film. In both cases, the present study supports earlier findings.

In the clinical groups, aspects of the appraisal of the threat perceived in the simulated environment were linked to anxiety. However, higher levels of delusional organization or paranoid thinking were not associated with higher ratings of the awfulness of the threat elicited by the task. This discrepant result could partly be explained by the characteristics of the task. Research reviewed across psychological disorders suggests that people attend to stimuli that are relevant to their concerns (Harvey et al., 2006). It has been reported that the belief system associated to delusion can be very diverse and that within it, the 'persecutors' can be very specific people (e.g. the mother of the patient, a neighbour) reducing the possibility of generalising the threat to others (Freeman, et al., 2001). It is conceivable that for a number of psychotic participants the simulated environment did not match with the content of their delusional system or the task was neither salient nor ambiguous enough to elicit extreme appraisals especially for those who had more elaborated delusional systems. Therefore, for some of the participants from the psychotic group this could have prevented them from appraising the filmed characters in a more threatening way.

The belief that harm was going to occur in the neutral environment that the participants of the study had to undergo was reported by the clinical groups. They also felt that the filmed characters could not be trusted. As an attributional process this belief could be conceptualised as negative, external and specific towards certain characters from the simulated environment. Evidence that a negative attributional style is present in anxious people comes from studies where comorbidity with depression is also present (Heimberg, Vermilyea, Dodge, Becker & Barlow, 1987; Heimberg, Klosko, Dodge, Shadick, Becker & Barlow,

1989). A study with normal participants that experienced a neutral virtual reality environment showed that those with higher levels of anxiety reported that harm would happen to them (Freeman et al., 2003; Freeman et al, 2005b). Patients with persecutory delusions also make external and personal attributions for negative events (Kinderman & Bentall, 1997b). The present study is in line with previous studies showing that external and negative attributions are linked to paranoid thinking when using neutral stimuli. The current study also shows that similar attributions are reported in people with clinical levels of anxiety.

The qualitative information obtained during the interviews of the present study indicated that characteristics such as the beliefs and attributions reported towards the filmed characters were more firmly held, implied more interference with social functioning, and involved more personal reference in the story in the psychotic than in the anxious group. However, the anxious group demonstrated more inclination to develop these attributions and narratives than the normal group. Previous studies find that these characteristics are definitory of delusional thoughts (Freeman, 2007).

Another relevant psychological factor associated with paranoid thinking is trauma. The present study showed that people presenting with paranoid-like thinking report significant levels of childhood traumatic experiences. This has been also found in previous studies (see Read et al., 2005). However, the present study is somewhat at variance with earlier studies on the specific measures of trauma that were found relevant. Read, Agar, Argyle and Aderhold (2003) found that sexual abuse was associated to paranoid delusions, and Ross, Anderson and Clark (1994) reported that abuse is frequent among people with delusions. The present study informed that emotional and physical neglect were the types of trauma that were more related with paranoid thinking. However, a study found that childhood neglect was more predictive of schizotypal traits than were sexual or physical abuse (Berenbaum, et al., 2003). Another discrepant result is that the present study did not find more traumatic

experiences in psychotic people than in anxious ones. Previous studies report a dose-effect where severity of disorder is associated with severity of trauma (Janssen, et al., 2004).

In previous studies persons with high levels of paranoid ideation seem to be more sensitive to emotional information, particularly negative emotions (Dudley, John, Young & Over, 1997; Mueser, Doonan, Penn, Blanchard, Bellack, Nishith & DeLeon, 1996). However, in another study they seemed to be less able to label the emotional states that human faces show than the control group (Combs et al., 2006). This result was interpreted in several ways; as an indication of the schema-driven processing present in paranoia which might interfere with the cognitive processing of stimuli (Bentall & Kaney, 1989), or as a consequence of having problems with ambiguity (Freeman et al, 2002) or avoidance (Freeman, Garety & Phillips, 2000). In the present study, the psychotic participants were able to interpret the neutral faces of the study as worrying and expressing strong emotions such as anger or sadness. An interpretation of this is that it might be possible that ambiguous stimuli may be incorporated into the search for meaning in people with a heightened state of arousal (Freeman et al., 2002). This would also help to understand why the anxious group was also reporting similar perceptions.

4.3. RELEVANCE OF FINDINGS TO COGNITIVE MODELS OF PARANOIA

4.3.1. The Attribution Self-Representation Model

According to the attribution self-representation model, people's tendency to explain events in terms of other people is the basis of the formation of paranoid thoughts (Bentall, et al., 2001). This tendency can be accentuated or distorted when some people have latent negative beliefs about self-representations that are vulnerable to being triggered by negative life events. These negative beliefs

are present in paranoid people and also in those with depression. However, the model predicts that patients with persecutory delusions prevent the activation of negative beliefs about the self by blaming or attributing intention of threat to other persons. This would imply that people with persecutory ideas would not be able to be introspective in relation to depressive thoughts. The current study found that delusional and anxious participants reported clinical levels of depression. The results differ with the prediction of the model. This problem has also been found in previous studies (Freeman et al 2000). However, it has been suggested that persecutory ideation may be associated with negative mood because self-representations are highly unstable (Bentall, et al., 2001).

The findings of the current study in relation to the importance of emotion in the development of paranoid thinking suggests that anxiety is present in people to persecutory thoughts. In contrast, Bentall's and colleagues cognitive model suggests that paranoid attributions are not directly originated by anxiety. Therefore, the model would not predict the presence of paranoid thinking in anxious people, an aspect that was found in the present study.

The finding related to the presence of traumatic experiences in people presenting with paranoid thinking supports the model. The model indicates that traumatic memories may be activated by actual life events via attributions. The stored knowledge about the self includes beliefs and memories that may have been shaped by trauma and abuse. Consequently, this knowledge might affect current self-representations which may construct attributions as external and negative.

Overall, the results of the present study seem to be at variance with the attribution self-representation model on measures of anxiety and depression.

4.3.2. The Threat-Anticipation Model

The threat-anticipation model of paranoia conceived by Freeman and Garety (2004a) suggests that reasoning factors, anomalous experiences and anxiety are key features for the development of paranoid thoughts. The results of the present study suggest that emotion is an influential aspect in paranoid thinking thus supporting the prediction of model. Anxiety and paranoid thoughts were present to a similar degree in both clinical groups.

The model predicts that ambiguous external information may be used by individuals with paranoid thinking to make sense of internal unusual experiences (e.g. feelings of significance, perceptual anomalies, depersonalisation, hallucinations). Suspicious ideas become increasingly delusional when there are biases in data gathering such as the 'jumping to conclusions' bias (Garety & Freeman, 1999). Therefore, the model is also supported by the data from the current study as the task was purposely designed to be neutral and elicit ambiguity. However, the study could not indicate to what extent internal unusual experiences and data gathering biases were influencing the tendency of the participants to suspect in relation to the filmed characters.

Freeman and Garety's model suggests that suspicious interpretations of events lie in psychological processes such as previous experiences (e.g. trauma, stress), emotional state (e.g. anxiety, depression), personality (e.g. schizotypy) and decision-making processes (e.g. attributions). They are also an expression of negative beliefs about the self, others and the world. There is evidence indicating that, in people with paranoid delusions, depression and anxiety are associated with negatives beliefs (Freeman & Garety, 2004a). In the present study, paranoid thoughts were observed in people presenting with anxiety and depression.

The model proposes that anxiety in the form of worry may keep the suspiciousness in mind and help to develop the content of the suspicion in a catastrophising fashion. Again, the results of the present study show that worry, perceived threat, distrust and hostility were present in those participants who scored higher in paranoid-like thinking.

With regards to the maintaining factors, the model hypothesises that threat beliefs, self-focus and safety behaviours (as in anxiety disorders) are critical. This could be assessed by looking into the aspects of the content of the delusion (e.g. beliefs about the power of the persecutor, interpersonal sensitivity and several aspects of the perceived threat such as deservedness of the harm). In the present study, the beliefs about the characters being threatening and more powerful seemed to be significantly accentuated in the clinical groups. Furthermore, both groups seemed significantly anxious in allowing the processes related to anxiety to activate the maintaining cycle.

Other contributing factors such as social adversity in the form of trauma and isolation are considered relevant by the model to understand paranoid thinking. Childhood trauma was significantly present in both clinical groups although emotional and physical neglect were the most reported types of traumas in the study.

In summary, the present study supports the threat anticipation model in a number of aspects. However, there is a significant problem with the results related to the similarity between the anxious and psychotic groups. The anxious group appeared to be as paranoid as the group that was diagnosed as genuinely deluded. This was predicted by hypothesis 2. There may be several ways of understanding this result. One way may be that the model claims that delusions are beliefs, and that delusional beliefs do not differ formally from non-delusional beliefs. In fact, although the beliefs measured in both groups appeared formally similar, the interviews with the participants revealed that the psychotic group

appeared more strongly convinced by them. At the same time, the anxious group showed more ability to review their paranoid-like thoughts in the light of conflicting evidence. The study measured the current reaction to a simulated and controlled source of social stimuli. This may have made both groups more homogeneous in terms of the level of salience that the participants perceived. It has been observed that people with persecutory delusions frequently report feeling threatened by individuals that they personally know (Green, et al., 2006). Therefore, without the normal source of stimuli that elicit intense paranoia, it is possible that a floor effect was causing this response as some of the clinically paranoid participants might have been maintaining their beliefs at a low profile of their 'normal' levels. These results would suggest that there may be a continuum of paranoid thoughts between anxious and psychotic patients.

4.4. CLINICAL IMPLICATIONS

Growing interest in individual psychotic symptoms is occurring in parallel with the positive outcome of cognitive interventions to reduce delusions and other psychotic symptoms (Harvey et al., 2006). The outcomes from using a simulated task such as the one from the present study, suggests that such a technology could be used for assessment, treatment and evaluation purposes. In a previous study, a computer simulated environment was used successfully for social skills training in people with autistic spectrum disorders (Parsons & Mitchell, 2002).

The simulated environment seemed to allow the study of genuine paranoid thinking elicited by a task. To measure and observe authentic delusions would improve the understanding of the client's predicaments and may help to formulate and intervene in a more effective way. With regards to the potential that this type of technology may have as an adjunct of a treatment package for people with delusions I would like to make an illustration using one of the sessions I had with a psychotic participant. This client was not very motivated to

participate and cancelled the appointments a couple of times. The community psychiatric nurse observed that she was generally very difficult to engage. However, she finally turned up for the session. After watching the film she appeared very distressed and angry. She was convinced that a certain character was very threatening. After a conversation in which I disclosed information about the filmed characters (e.g. that they are normal and pleasant people who kindly wanted to help in the project) the participant became confused about the opinions that she shared with me a few minutes before. Days after this encounter, the community psychiatric nurse informed me that the session had helped the patient and that she became noticeably more reflective about her paranoid delusions. She also stated that after that the patient was keener to make appointments with her. Such outcome could suggest that cognitive strategies targeting delusional thoughts could be adapted to use simulated environments.

As in previous studies (e.g. Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman, Wittchen, & Kendler, 1994), comorbidity was observed in the present study in the psychotic and anxious groups. A transdiagnostic approach to these results could provide an understanding of why this is a common observation. This account proposes that the results of the study may reflect three possible processes. The first could be that some features of one disorder may operate as a risk factor for other psychological disorders. A second possibility would suggest that psychological disorders share maintaining processes, and the third option would indicate that a common vulnerability does exist (Harvey, et al., 2006). From a transdiagnostic perspective it is argued that relying on just one disorder would impede a systematic assessment of a patient's predicaments. From this approach assessments and treatments "*would be targeted at the processes in common across the comorbid disorders*" (Harvey et al., 2006, p.12). Another advantage of adopting such a perspective could be that it would promote greater transfer of theoretical and treatment improvements between the disorders. For instance, advances in the theory and treatment of anxiety disorders (e.g.

Salkovskis, 1985; Clark, 1986; Salkovskis & Warwick, 1986) have resulted in advances in the theory and treatment of psychotic symptoms (Morrison, Haddock & Tarrier, 1995).

The findings in relation to childhood trauma experiences reveal that both clinical groups reported traumatic experiences. The clinical implications of a relationship between trauma and psychosis are that psychological treatments should be available to treat these problems. Some studies suggest that treatment equivalent to those used in PTSD might be useful (Rosenberg, Mueser, Friedman, Gorman, Robert, Drake, Vidaver, Torrey, & Jankowski, 2001). In other studies it has been reported that for some patients making sense of their biography and their previously overwhelming and perplexing symptoms may have a considerable therapeutic effect (Fowler, 2000).

The differences observed between patient groups when reporting their impressions about the filmed characters indicated that the psychotic group presented with more accentuated delusional traits than the anxious group, suggesting that the differences between both groups are qualitative and that similar attributional and metacognitive processes underlie the presentation of both disorders (Harvey et al., 2006).

Another observation associated with the variability found in the patient's perception of a controlled social environment is that it seems to mirror human variability but also suggests that their predicaments may reflect complex difficulties of heterogeneous and multidimensional nature. The response to the task that the patients showed during the study implies that people with psychosis have significant problems in managing their day-to-day lives. Cognitive biases, metacognitive processes, anxiety and depression may lead to difficulties in social understanding, in adapting to their communities and in undertaking plans or tasks. The nature of their predicaments can vary significantly between patients, however, clinically, these difficulties and high specificity should be reflected in

formulations and interventions. In clinical practice some problems such as cognitive biases might not be so obvious to the therapist. An explicit assessment and acknowledgment of these deficits may improve the management of the case. For instance, using exposure to challenging social situations carefully and with a stepped approach (Fowler, Garety & Kuipers, 2005).

The present study reveals that people with psychosis make strong statements about others with little information available. It would not be surprising to find in the clinic that this type of bias could have an impact on the therapeutic relationship leading in some occasions to drop out. In fact, it has been reported that difficulties in forming a therapeutic relationship with psychotic people is a known aspect of the work with this client group (Fowler, Garety & Kuipers, 2005). The present study also indicates that the same might happen to people with anxiety problems. Some authors recommend eliciting and modifying the patient's distorted view of the relationship with the therapist (Fowler, Garety & Kuipers, 2005).

The results of the present study suggest that paranoid thinking is not exclusive or specific to disorder or client group and that it can be explored in other populations. From a clinical perspective this would allow the investigation and understanding of delusions as part of normal human response to complex circumstances. Additionally, the area of emotion and psychosis has proved to be very relevant. From a clinical perspective, it would be critical to recognise emotional disorder amongst people with psychosis in general, and people with paranoid delusions in particular. The ways in which emotional disturbance may contribute to the formation and maintenance of delusions should be explored. Psychological treatment may then address dysfunctional patterns of thinking associated with emotional themes. It has been suggested that cognitive behavioural strategies adapted from depression and personality disorders would be adequate for this purpose (Fowler, Garety & Kuipers, 2005).

4.5. LIMITATIONS OF THE STUDY

The current study adopted a single symptom approach and therefore it was not considered appropriate to use a structured interview to establish diagnoses for the clinical groups. Because of this, however, diagnostic reliability cannot be assured. Therefore, it is not possible to conclude that the findings of the study are specific to paranoid thinking.

The sample size that was required to allow a .8 level of power at an α level of 0.05 was 102 subjects. Obviously, the sample size of the study compromised the chances of detecting an effect size. However, based on Cohen (1992) if an α level of .05 is taken and we require a recommended power of .8 then we would need 28 participants to detect a medium effect size (r=.5). In that respect the current study has a superior number of participants. In any case, the small sample size of the study implies that the representativeness of the study is affected. Consequently, the conclusions extracted from it are only preliminary and need to be replicated on a wider scale.

Due to the small sample size it was not possible to match the clinical groups with the normal control in terms of education. The normal control group had more university educated participants in comparison with the clinical groups. This variation may reflect significant differences in terms of life events and experiences, which is an aspect that the cognitive models consider influence peoples beliefs and attributions, and thus potentially influencing the responses to the social simulated task.

The normal control group was not assessed for the presence of mental illness using a structured assessment tool.

The study explored paranoid thinking with three new questionnaires using acceptable levels of internal consistency. However, in order to bolster the

potential use of such measures, a test-retest method could help to improve the reliability of the scales. Additionally, two of the questionnaires utilised were designed and had been employed in previous studies. The robustness of the conclusions may be limited by this.

The current study was a cross-sectional one of a self-selected sample as the participants chose to opt into the study. It is conceivable that those potential participants with more prominent paranoid thoughts opted out of the study thus implying a selection bias. Another source of selection bias was introduced as clinicians from the community mental health team had to decide who was an appropriate candidate for the study. This may have allowed the inclusion of a heterogeneous sample of psychotic people (e.g. patients with a long chronic course mixed with those at first episode).

The qualitative data of the project has been collected as a complementary source of information that by itself do not constitute a solid foundation from which the psychological processes studied can be rigorously analysed.

From a transdiagnostic approach, the study could have analysed whether there was a general relationship between trauma and paranoia. The problem with this possibility is that no single measure of paranoia or trauma was used. Another difficulty is that no clinically standardised measures for paranoia were used for this study, and consequently the study did not use a graded mean of paranoia as such. However, one of the questionnaires that was taken from Freeman and Garety studies could be used as an indication of paranoia (e.g. Details of Threat Questionnaire). Therefore, the suggestion would be combining the total score of trauma in one single outcome and selecting the Details of Threat Questionnaire as a measure of paranoia. This would have permitted the correlation of both measures and the exploration of relationships between both constructs.

4.6. FUTURE RESEARCH

One future line of clinically relevant research would be the exploration of psychological factors that distinguish clinical and non-clinical individuals. For instance, by comparing the similarities and differences in paranoid content in both populations.

Given the similarity in the way both clinical groups responded towards the simulated task, studies could be designed investigating the possible distinction between anxious fears and paranoid thoughts. In this respect, the qualitative data obtained in the study would suggest that future research could be developed following a more systematic exploration of the patterns of response given by the clinical participants (e.g. study of the skin conductance and musculo-skeletal response as measures of anxiety and/or recording sessions to study the non-verbal communication of the participants).

Key emotions that appeared to be shared across the clinical groups such as distrust, attribution of power, perception of threat and worry towards the emotional expression of the film characters could be explored longitudinally, exposing the individuals to different films over time, with the same characters. This would help to distinguish them and also explore the effect of repeated exposure to neutral characters.

A more ecologically valid study could be implemented using real characters in a room and see if psychotic and non-psychotic people would differ under this condition.

The limitations related to the selection bias would suggest that future studies could include a more homogeneous sample of psychotic participants. For example, individuals at first episode of psychosis.

Dose-effect studies could be designed to help clarify the effect of trauma on paranoid thinking recruiting participants along the continuum of psychosis, such as high schizotypy individuals.

According to Freeman and Garety's model (2004a) anxiety is central in the development of paranoid thoughts. However, the model does not clarify why anxiety is critical for paranoid thinking and is not for other delusions. It would be relevant to design studies helping to distinguish between different types of delusions (that is, delusional content) in terms of symptoms (e.g. what kind of problems people with grandiose delusions have that distinguish them).

4.7. CONCLUSIONS

The present study compared paranoid thinking between patients with psychosis and patients with anxiety disorders elicited after watching a simulation of a social encounter task. The hypothesis that a simulated environment task would be able to detect suspiciousness and paranoid thinking in clinical participants was supported. Patients with anxiety disorders showed similar levels of paranoid-like ideas when compared to patients with psychosis as predicted. Anxiety and depression were reported by all the participants of the study who showed paranoid-like thinking. Although quantitatively similar, the paranoid-like thoughts from psychotic and anxious patients were differentiated by the extent of the suspicious thoughts and by an already elaborated belief system in the psychotic patients.

The prediction that the psychotic group would report more severe early traumatic experiences than the anxious group did not appear to be confirmed. However, the study appeared to support that those exhibiting a higher level of paranoid thinking would report higher levels of trauma.

An additional finding is that neutral faces were perceived as threatening by those exhibiting paranoid thinking.

The findings of the present study support Freeman and Garety's cognitive model of paranoid thinking and differ from Bentall et al. The similarity in the cognitive processes identified and presence of comorbidity in both clinical groups supports the view that a transdiagnostic approach in research and therapy may be fruitful. Generally, the study suggests that a psychological formulation of paranoid thoughts is appropriate in understanding delusions, showing that proneness to these predicaments may suggest that they are a further dimension of human diversity (Bentall, 2004).

REFERENCES

American Psychiatric Association (1994). Diagnotic and statistical manual of mental disorders. Fourth Edition. American Psychiatric Association, Washington, DC.

Bebbington, P.E., Bhugra, D., Brugha, T., Singleton, N., Farrell, M., Jenkins, R., Lewis, G. & Meltzer, H. (2004). Psychosis, victimisation and childhood disadvantage: Evidence from the second British National Survey of Psychiatric Morbidity. The British Journal of Psychiatry, 185, 220 - 226.

Beck, A.T., Epstein, N., Brown, G. & Steer, A.R. (1988). An inventory for measuring anxiety: Psychometric properties. Journal of Consulting and Clinical Psychology, 56, 6, 893-897.

Beck, A.T., Steer, R.A., & Brown, G.K. (1996). Manual for the Beck Depression Inventory-II. The Psychological Corporation, San Antonio, TX.

Bernstein, D.P., & Fink, L. (1998). Childhood Trauma Questionnaire. A Retrospective Self-Report Manual. The Psychological Corporation, Orlando.

Beck, J.C. & van der Kolk, B. (1987). Reports of childhood incest and current behaviour in chronically hospitalised psychotic women. American Journal of Psychiatry, 144, 1474-1476.

Beebe, G. Follow-up studies of World War II and Korean war prisoners. American Journal of Epidemiology, 101, 400-402.

Beese, A. G., & Stratton, P. (2004). Causal attributions in delusional thinking. An investigation using qualitative methods. British Journal of Clinical Psychology, 43, 267-283.

Bentall, R.P. (2004). Madness explained: Psychosis and human nature. London, Allen Lane.

Bentall, R.P., Claridge, G. & Slade, P.D. (1989). The multi-dimensional nature of schizotypal traits: a factor analytic study with normal subjects. British Journal of Clinical Psychology, 28, 363–375.

Bentall, R.P., Corcoran, R., Howard, R., Blackwood, N. & Kinderman P. (2001). Persecutory delusions: A review and theoretical integration. Clinical Psychology Review, 21, 8, 1143-1192.

Bentall, R. P., Fernyhough, C., Morrison, A. P., Lewis, S., & Corcoran, R. (2007). Prospects for a cognitive-developmental account of psychotic experiences. British Journal of Clinical Psychology, 46, 2, 155-173.

Bentall, R. P., Jackson, H. F., & Pilgrim, D. (1998). Abandoning the concept of schizophrenia: Some implications of validity arguments for psychological research into psychotic phenomena. British Journal of Clinical Psychology, 27, 303-324.

Bentall, R.P., Kaney, S. (1989). Content specific information processing and persecutory delusions: An investigation using the emotional stroop test. British Journal of Medical Psychology, 62, 355-64.

Berenbaum, H., Boden, M.T., Baker, J.P., Dizen, M., Thompson, R.J. & Abramowitz, A. (2006). Emotional correlates of the different dimensions of schizotypal personality disorder. Journal of Abnormal Psychology, 115, 359-368.

Berenbaum, H., Valera, E.M., & Kerns. (2003). Psychological trauma and schizotypical symptoms. Schizophrenia Bulletin, 29, 143-152.

Berry, K. Wearden, A. & Barrowclough, C. (2007). Adult attachment styles and psychosis: an investigation of associations between general attachment styles and attachment relationships with specific others. Soc Psychiatry Psychiatr Epidemiol, 11, 179-184.

Birchwood, M. (2003). Pathways to emotional dysfunction in first episode psychosis. British Journal of Psychiatry, 182, 373-375.

Birchwood, M., Macmillan, F. & Smith, J. (1992). Early intervention. In M. Birchwood & N. Tarrier (Eds). Innovations in the psychological management of schizophrenia. Wiley, Chichester, 115-145

Bowe, S., Morrison, A. & Morley, S. (2005). The relationship between past childhood trauma and auditory hallucinations in individuals with psychosis. British Journal of Clinical Psychology, 4, 457-473.

Boyle, M. (2002). Schizophrenia: A scientific delusion? Second Edition. Routledge, London.

Brown, G.W. & Harris, T.O. (1989). Life events and illness. New York, NY. Guildford Press.

Buchy, L., Woodward, T.S. & Liotti, M. (2007). A cognitive bias against disconfirmatory evidence (BADE) is associated with schizotypy. Schizophrenia Research, 90, 334-337.

Butler, R., Mueser, K., Sprock, J. & Braff, D. (1996). Positive symptoms of psychosis in prosttraumatic stress disorder. Biological Psychiatry, 39, 389-844.

Butzlaff, R.L. & Hooley, J.M. (1998). Expressed emotion and psychiatric relapse: A meta-analysis. <u>Archives of General Psychiatry</u>, 55, 547-552.

Cascardi, M., Mueser, K., Degiralomo, J. & Murria, M. (1996). Physical aggression against psychiatric inpatients by family members and partners. <u>Psychiatr Serv,</u> 47, 531-533.

Cassano GB, Pini S, Saettoni M, Rucci P, Dell'Osso L. (1998). Occurrence and clinical correlates of psychiatric comorbidity in patients with psychotic disorders. <u>Journal of Clinical Psychiatry</u>, 59, 60-8.

Ciapparelli A, Paggini R, Marazziti D, Carmassi C, Bianchi M, Taponecco C, Consoli G, Lombardi V, Massimetti G, Dell'osso L. (2007). Comorbidity with axis I anxiety disorders in remitted psychotic patients 1 year after hospitalization. <u>CNS Spectr</u>, 12, 913-9.

Clark, D.M. (1986). A cognitive approach to panic. <u>Behaviour Research and Therapy</u>, 24, 461-70.

Claridge, G., McCreery, C., Mason, O., Bentall, R., Boyle, G., Slade, P. and Popplewell, D. (1996). The factor structure of 'schizotypal' traits: a large replication study. <u>British Journal of Clinical Psychology</u>, 35, 103–115.

Clark, D.M. (1999). Anxiety disorders: Why they persist and how to treat them. <u>Behaviour Research and Therapy,</u> 37, S5-S27.

Combs, D.R., Michael, C.O., & Penn, D.L. (2006). Paranoia and emotion perception across the continuum. <u>British Journal of Clinical Ps ychology</u>, 45, 19-31.

Combs, D.R., Penn, D.L. & Fenigstein, A. (2002). Ethnic differences in sub-clinical paranoia: An expansion of norms for the Paranoia scale. Cultural Diversity and Ethnic Minority Psychology, 8, 248-256.

Constants, J.I., Penn, D.L., Ihen, G.H. & Hope, D.A. (1999). Interpretive biases for ambiguous stimuli in social anxiety. Behaviour Research and Therapy, 37, 665-71.

Cosoff, S.J. & Hafner, R.J. (1998). The prevalence of comorbid anxiety in schizophrenia, schizoaffective disorder and bipolar disorder. Australian and New Zealand Journal of Psychiatry, 32, 67-72.

Craig, J. S., Hatton, C., Craig, F. B., & Bentall, R.P. (2004). Persecutory beliefs, attributions and theory. Schizophrenia Research, 17, 5-13.

Crowell, J.A. & Treboux, D. (1995). A review of adult attachment measures: Implications for theory and research. Social Development, 4, 294-327.

Darvez-Bamez, J.M., Lemperiere, T., Degiovanni, A. & Gaillard, P. (1995). Sexual victimisation in women with schizophrenia and bipolar disorder. Social Psychiatry and Psychiatric Epidemiology, 32, 78-84.

Díez-Alegría, C., Vázquez, C., Nieto-Moreno, M., Valiente, C., & Fuentenebro, F. (2006). Personalizing and externalizing biases in deluded and depressed patients: Are attributional biases a stable and specific characteristic of delusions? British Journal of Clinical Psychology, 45, 531-544.

Dozier, M. (1990). Attachment organization and treatment use for adults with serious psychopathological disorders. Development and Psychotherapy, 2, 47-60.

Dozier, M., Stevenson, A.L., Lee, S.W. & Velligan, D.I. (1991). Attachment organization and familial overinvolvement for adults with serious psychopathological disorders. Development and Psychopathology, 3, 475-489.

Dudley, R.E.J., John, C.H., Young, A.W. & Over, D.E. (1997). The effect of self-referent material on the reasoning of people with delusions. British Journal of Clinical Psychology, 36, 575-84.

Ellenson, G. (1985). Detecting a history of incest: a predictive syndrome. J Contemp Soc Work, 66, 525-532.

Eysenck, H.J. (1992). The definition and meaning of psychoticism. Personality and Individual Differences, 13, 757-85.

Fenigstein, A. (1997). Paranoid thought and schematic processing. Journal of Social and Clinical Psychology, 16, 77-94.

Flint, A.J. (1991). Delusions in dementia. A review. Journal of Neuropsychiatry and Clinical Neurosciences, 3, 121-130.

Fowler, D. (2000). Psychological formulation of early episodes of psychosis. In: M. Birchwood, D. Fowler & C. Jackson (Eds). Early interventions in psychosis. London: Wiley, 112-137.

Fowler, D., Garety, P., & Kuipers, E. (2005). Cognitive Behaviour Therapy for Psychosis. Theory and Practice. John Wiley & Sons, Chichester.

Freeman, D. (2006). Delusions in the non-clinical population. Current Psychiatry Reports, 8, 191-204.

Freeman, D. (2007). Suspicious minds: The psychology of persecutory delusions. Clinical Psychology Review, 27, 425-457.

Freeman, D., & Garety, P. A. (1999). Worry, worry processes and dimensions of delusions: An exploratory investigation of a role for anxiety processes in the maintenance of delusional distress. Behavioural and Cognitive Psychotherapy, 27, 47-62.

Freeman, D., & Garety, P. A. (2000). Comments on the content of persecutory delusions: Does the definition need clarification? British Journal of Clinical Psychology, 39, 407-414.

Freeman, D., & Garety, P.A. (2003). Connecting neurosis and psychosis: the direct influence of emotion on delusions and hallucinations. Behaviour, Research and Therapy, 41, 923-947.

Freeman, D., & Garety, P. A. (2004a). Paranoia: The Psychology of Persecutory Delusions. Psychology Press, Hove.

Freeman, D., Garety, P.A., Bebbington, P., Slater, M., Kuipers, E., Fowler, D., Green, C., Jordan, J., Ray, K. & Dunn, G. (2005). The Psychology of Persecutory Ideation II. A Virtual Reality Experimental Study. Journal of Nervous and Mental Disease. 193, 5, 309-315.

Freeman, D., Garety, P.A., & Kuipers, E. (2001). Persecutory delusions: Developing the understanding of belief maintenance and emotional distress. Psychological Medicine, 31, 1293-1306.

Freeman, D., Garety, P.A., Kuipers, E., Bebbington, P.E., & Dunn, G. (2004b). Why do people with delusions fail to choose more realistic explanations for the

experiences? An empirical investigation. <u>Journal of Consulting and Clinical Psychology</u>, 72, 671-680.

Freeman, D., Garety, P.A., Kuipers, E., Colbert, S., Fowler, D., et al. (2006). Delusions and decision making style: Use of the Need for Closure Scale. <u>Behaviour, Research and Therapy</u>, 44, 1293-1158.

Freeman, D., Garety, P.A., Kuipers, E., Fowler, D., & Bebbington, P. E. (2002). A cognitive model of persecutory delusions. <u>British Journal of Clinical psychology</u>, 41, 1293-1306.

Freeman, D., Garety, P.A., McGuire, P., & Kuipers, E. (2005a). Developing a theoretical understanding of therapy techniques: Reasoning, therapy and symptoms, <u>British Journal of Clinical Psychology</u>, 44, 241-254.

Freeman, D., Garety, P.A. & Phillips, M.L. (2000). The examination of hypervigilance for external threat in individuals with generalized anxiety disorder and individuals with persecutory delusions using visual scan paths. <u>Quarterly Journal of Experimental Psychology: Human Experimental Psychology</u>, 53A, 549-67.

Freeman, D., Slater, M., Bebbington, P.E., Garety, P.A., Kuipers, E., Fowler,D., Met, A., Read, C.M., Jordan, J., & Vinayagamoorthy, V. (2003). Can Virtual Reality be Used o Investigate Persecutory Ideation? <u>Journal of Nervous and Mental Disease</u>. 191, 8, 509-514.

Frith, C.D. (1992). <u>The cognitive neuropsychology of schizophrenia</u>. LEA, Hove.

Garety, P.A., & Freeman, D. (1999). Cognitive approaches to delusions: A critical review of theories and evidence. <u>British Journal of Clinical Psychology</u>, 38, 113-154.

Goff, D.C., Brotman, A.W., Kindler, D. & Waites, M. (1991). Self-reports of childhood abuse in chronically psychotic patients. <u>Psychiatry Research</u>, 37, 73-80.

Goldberg, D., Benjamin, S., & Creed, F. (1994). <u>Psychiatry in medical practice</u>. Second Edition. Routledge, London.

Gracie, A., Freeman, D., Green, S., Garety, P.A., Kuipers, E., Hardy, A., Ray, K., Dunn, G., Bebbington, P. Fowler, D. (2007). The association between traumatic experience, paranoia and hallucinations: a test of the predictions of psychological models. <u>Acta Psychiatr Scand</u>, 116, 280-289.

Greenfield, S.F., Stratowski, S.M., Tohen, M., Batson, S. & Kolbrener, M.L. (1994). Childhood abuse in first-episode psychosis. <u>British Journal of Psychiatry</u>, 164, 831-834.

Gooding, D.C., Tallent, K.A. & Hegvi, J.V. (2001). Cognitive slippage in schizotypic individuals. <u>Journal of Nervous and Mental Disease</u>, 189, 750-756.

Goodwin, F. K., & Jamison, K. R. (1990). <u>Manic-depressive illness</u>. Oxford University Press, Oxford.

Green, C., Garety, P.A., Freeman, D., Fowler, D., Bebbington, P.E., Dunn, G., & Kuipers, E. (2006). Content and affect in persecutory delusions. <u>British Journal of Clinical Psychology</u>, 45, 561-577.

Greig, T.C., Bryson, G. J., & Bell, M. D. (2004). Theory of mind performance in schizophrenia. <u>Journal of Nervous and Mental Disease</u>, 192, 12-18.

Hague, P. (1993). <u>Questionnaire Design</u>. Kogan Page, London.

Hammersley, P., Dias, A., Todd, G., Bowen-Jones, K., Reilly, B. & Bentall, R. (2003). Childhood traumas and hallucinations in bipolar affective disorder. Br J Psychiatry, 182, 543-547

Hamner, M. B., Frueh, C. B., Ulmer, H. G., & Arana, G. W. (2000). Psychotic features and illness severity in combat veterans with chronic posttraumatic stress disorder. Biological Psychiatry, 45, 846-852.

Harvey, J.H. & Miller, E.D. (2000). Loss and trauma: General and close relationship perspectives. Brunner-Routledge, Sussex.

Harvey, A., Watkins, E., Mansell W. & Shafran, R. (2006). Cognitive behavioural processes across psychological disorders. A transdiagnostic approach to research and treatment. Oxford University Press, New York.

Heimberg, R.G., Vermilyea, J.A., Dodge, C.S., Becker, R.E. & Barlow, D.H. (1987). Attributional style, depression and anxiety: an evaluation of the specificity of depressive attributions. Cognitive Therapy and Research, 11, 537-50.

Heimberg, R.G., Klosko, J.S., Dodge, C.S., Shadick, R., Becker, R.E. & Barlow, D.H. (1989). Anxiety disorders, depression, and attributional style: a further test of the specificity of depressive attributions. Cognitive Therapy and Research, 13, 21-36.

Hemsley, D.R. (1993). A simple (or simplistic?) cognitive model for schizophrenia. Behaviour Research and Therapy, 31, 633-45.

Holowka, D., King, S., Saheb, D., Pukall, M. & Brunet, A. (2003). Childhood abuse and dissociative symptoms in adult schizophrenia. Schizophr Res, 66, 323-334.

Honing, A., Romme, M.A., Ensink, B.J., Escher, S.D., Pennings, M.H., de Vries, M.W. (1998). Auditory hallucinations: a comparison between patients and non-patients. Journal of Nervous and Mental Disease, 186, 646-51.

Jang, K.L., Woodward, T.S., Lang, D., Honner, W.G. & Livesley, W.J. (2005). The genetic and environmental basis of the relationship between schizotypy and personality: a twin study. Journal of Nervous and Mental Disease, 193, 153-159.

Jacobs, L.I. (1980). A cognitive approach to persistent delusions. American Journal of Psychotherapy. 34, 556-563.

Janssen, I., Krabbendam, L., Bak, M., Hanssen, M. Vollebergh, W., de Graaf, R. & van Os, J. (2004). Childhood abuse as a risk factor for psychotic experiences. Acta Psychiatrica Scandinavica, 109, 38-45.

Johnson, J., Horwath, E., & Weissman, M. M. (1991). The validity of major depression with psychotic features based on a community sample. Archives of General Psychiatry, 48, 1075-1081.

Johns L.C. & van Os J. (2001). The continuity of psychotic experiences in the general population. Clinical Psychology Review, 21, 1125-41.

Kaney, S., & Bentall, R. P. (1989). Persecutory delusions and attributional style. British Journal of Medical Psychology, 62, 191-198.

Kaney, S., Wolfenden, M., Dewey, M. E., & Bentall, R. P. (1992). Persecutory delusions and the recall of threatening and non-threatening propositions. British Journal of Clinical Psychology, 31, 85-87.

Kaplan, B.J., Saddock, V.A. (2005). Comprehensive Textbook of Psychiatry. Eight Edition. Lippincott, Williams & Wilkins, Baltimore.

Kerns, J.G. (2005). Positive schizotypy and emotion processing. Journal of Abnormal Psychology, 114, 392-401.

Kerns, J.G. (2006). Schizotypy facets, cognitive control, and emotion. Journal of Abnormal Psychology, 115, 418-427.

Kessler, R.C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen H. U., & Kendler, K. S. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Archives of General Psychiatry, 51, 8-19.

Kilcommons, A.M. & Morrison, A.P. (2005). Relationships between trauma and psychosis: an exploration of cognitive and dissociative factors. Acta Psychiatrica Scandinavica, 112, 352-359.

Kinderman, P., & Bentall, R. P. (1997b). Causal attributions in paranoia: Internal, personal and situational attributions for negative events. Journal of Abnormal Psychology, 106, 341-345.

Kinderman, P., Prince, S., Waller, G. & Peters, E. (2003). Self-discrepancies, attentional bias and persecutory delusions. British Journal of Clinical Psychology, 42, 1-12.

Kingdon, D.G. & Turkington, D. (2008). Cognitive Therapy of Schizophrenia. East Sussex, Guildford Press.

Krstev, H., Jackson, H., & Maude, D. (1999). An investigation of attributional style in first-episode psychosis. British Journal of Clinical Psychology. 38, 181-194.

Lee, D, A., Randall, F., Beattie, G., & Bentall, R. P. (2004). Delusional discourse: An investigation comparing the spontaneous causal attributions of paranoid and

non-paranoid individuals. <u>Psychology and Psychotherapy: Theory, Research and Practice,</u> 77, 525-540.

Lyon, H. M., Kaney, S., & Bentall, R. P. (1994). The defensive function of persecutory delusions: Evidence from attribution tasks. <u>British Journal of Psychiatry</u>, 164, 637-646.

Maher, B. A. (1974). Delusional thinking and perceptual disorder. <u>Journal of Individual Psychology</u>, 30, 98-113.

Mallinckrodt, B. (2000). Attachment, social competencies, social support, and interpersonal processes in psychotherapy. <u>Psychotherapy Research</u>, 10, 239-266.

Malmberg, A., Lewis, G., David, A., & Allebeck, P. (1998). Premorbid adjustment and personality in people with schizophrenia. . <u>British Journal of Psychiatry</u>, 172, 308-313.

Margo, A., Hemsley, D.R. and Slade, P.D. (1981). The effects of varying auditory input on schizophrenic hallucinations. <u>British Journal of Psychiatry</u>, 139, 122-27.

Marzillier, S.L. & Steel, C. (2007). Positive schizotypy and trauma related intrusions. <u>Journal of Nervous and Mental Disease</u>, 195, 60-64.

Matejkowski JC, Cullen SW, Solomon PL. (2008). Characteristics of persons with severe mental illness who have been incarcerated for murder. <u>J Am Acad Psychiatry Law</u>. 2008;36(1):74-86.

Mickelson, K.D., Kessler, R.C. & Shaver, P.R. (1997). Adult attachment in a nationally representative sample. <u>Journal of Personality and Social Psychology</u>, 73, 1092-1106.

Mikulincer, M. Shaver, P.R. & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. Motivation and Emotion, 27-102.

Miller, P., Byrne, M., Hodges, A., Lawrie, S.M., Owens, D.G.C & Johnstone, E.C. (2002). Schizotypal components in people at risk of developing schizophrenia: early findings from the Edinburgh High-Risk Study. British Journal of Psychiatry, 180, 179-184.

Morrison, A. (2001). The interpretation of intrusions in psychosis: an integrative cognitive approach to hallucinations and delusions. Behavioural and Cognitive Psychotherapy, 29, 257-276.

Morrison, A.P., Haddock, G. & Tarrier, N. (1995). Intrusive thoughts and auditory hallucinations: a cognitive approach. Behavioural and Cognitive Psychotherapy, 23, 265-80.

Morrison, A.P., Bentall, R.P., French, P. Walford, L., Kilcommons, A., Knight, A., Kreutz, M. & Lewis, S.W. (2002). Randomised controlled trial of early detection and cognitive therapy for preventing transition to psychosis in high-risk individuals. Study design and interim analysis of transition rate and psychological risk factors. British Journal of Psychiatry Suppl, 43, 78-84.

Morrison, A., Frame, L. & Larkin, W. (2003). Relationships between trauma and psychosis: a review and integration. British Journal of Clinical Psychology, 42, 331-353.

Morrison, A. & Petersen T. (2003). Trauma and metacognition as predictors of predisposition to hallucinations. Behav Cogn Psycother, 31, 235-246.

Moser, C.A. & Kalton, G. (1992). Survey methods in social investigation. 2nd Ed. Darmouth Publishing, Harts.

Muenzemaier, K., Castille, D. & Shelley, A. (2005). Comorbid PTSD and schizophrenia. Psychiatr Ann, 35, 51-56.

Muenzemaier, K., Meyer, I., Struening, E. & Ferber, J. (1993). Childhood abuse and neglect among women outpatients with chronic mental illness. Hosp Community Psychiatry, 44, 666-670.

Mueser, K.T., Doonan, R., Penn, D.L., Blanchard, J.J., Bellack, A.S., Nishith, P. & DeLeon, J. (1996). Emotion recognition and social competence in chronic schizophrenia. Journal of Abnormal Psychology, 105, 271-75.

Mueser KT, Rosenberg SD, Xie H, Jankowski MK, Bolton EE, Lu W, Hamblen JL, Rosenberg HJ, McHugo GJ, & Wolfe R. (2008). A randomized controlled trial of cognitive-behavioral treatment for posttraumatic stress disorder in severe mental illness. Journal of Consulting Clinical Psychology, 76, 259-71.

Mundy, P., Robertson, M., Roberston, J. & Greenblatt, M. (1990). The prevalence of psychotic symptoms in homeless adolescents. J Am Acad Child Adolsc Psychiatry, 29, 724-731.

Murray, R. M., Grech, A., Phillips, P., & Johnson, S. (2003). What is the relationship between substance abuse and schizophrenia? In R. M. Murray (Ed.) The Epidemiology of Schizophrenia, 317-342. Cambridge University Press, Cambridge.

Neria, Y., Bromet, E.J., Sievers, S., Lavelle, J. & Fochtman, L.J. (2002). Trauma exposure and posttraumatic stress disorder in psychosis: findings from a first-admission cohort. Journal of Consulting Clinical Psychology, 70, 246-251.

Norman, R.M. & Malla, A.K. (1993). Stressful life events and schizophrenia. I: A review of the research. British Journal of Psychiatry, 162, 161-166.

Norman, R.M. & Malla, A.K. (1994). Correlations over time between dysphoric mood and symptomatology in schizophrenia. Comprehensive Psychiatry, 35, 34-38.

Norman, R.M., Malla, A.K., Cortese, L. & Diaz, F. (1998). Aspects of dysphoria and symptoms of schizophrenia. Psychological Medicine, 28, 1433-1441.

Offen, L., Waller, G. Thomas, G. (2003). Is reported childhood sexual abuse associated with the psychopathological characteristics of patients who experience auditory hallucinations? Child Abuse Negl, 27, 919-927.

Oltmanns, T.F. (1988). Approaches to the definition and study of delusions. In T. F. Oltmanns & B. A. Maher. (Eds). Delusional Beliefs (pp. 3-12). Wiley, New York.

Onstad, S., Skre, I., Torgersen, S. & Kringlen, E. (1994). Family interaction: Parental representation in schizophrenic patient. Acta Psychiatrica Scandinavica, 90, 67-70.

Oppenheim, A.N. (1992). Questionnaire Design, Interviewing and Attitude Measurement. Pinter Publications, London.

Parsons, S. & Mitchell, P. (2002). The potential of virtual reality in social skills training for people with autistic spectrum disorders. Journal of Intellectual Disability Research, 46, 430-43.

Peters, E., Day, S., & Garety, P. (1997). From preconscious to conscious processing: Where does the abnormality lie in delusions? <u>Schizophrenia Research</u>, 24, 120.

Pietromonaco, P.R. & Feldman Barrett, L. (2000). The internal working models concept: What do we really know about the self in relation to others? <u>Review of General Psychology</u>, 4, 155-175.

Platts, H., Tyson, M. & Mason, O. (2002). Adult attachment style and core beliefs: Are they linked? <u>Clinical Psychology and Psychotherapy</u>, 9, 332-348.

Premack, D., & Woodruff, G. (1978). Does the chimpanzee have a theory of mind? <u>Behavioural and Brain Sciences</u>, 4, 515-526.

Raine, A. (1991). The SPQ: A scale for the assessment of schizotypal personality based on DSM-III-R criteria. <u>Schizophrenia Bulletin</u>, 17, 555-564.

Raine, A. (2005). Schizotypal personality: neurodevelopmental and psychosocial trajectories. <u>Annual Review of Clinical Psychology</u>, 2, 291-326.

Read, J. (2005). Breaking the silence: learning how to ask about trauma. In: Larkin, W. & Morrison, A. <u>Understanding trauma and psychosis</u>. Hove, Brunner-Routledge<u>.</u>

Read, J. (1997). Child abuse and psychosis: a literature review and implications for professional practice. <u>Prof Psychol Res Pr</u>, 28, 448-456.

Read, J., Agar, K., Argyle, N. & Aderhold, V. (2002). Sexual and physical abuse during childhood and adulthood as predictors of hallucinations, delusions and thought disorder. <u>Psychology and Psychotherapy: Theory, Research and Practice</u>, 76, 1-22.

Read, J., Agar, K., Argyle, N. & Aderhold, V. (2003). Sexual and physical assault during childhood and adulthood as predictors of hallucinations, delusions and thought disorder. Psychol Psychother Theory Res Pract, 76, 1-22.

Read, J. & Argyle, N. (1999). Hallucinations, delusions and thought disorders among adult psychiatric inpatients with a history of child abuse. Psychiatr Serv, 50, 1467-1472.

Read, J., Goodman, L., Morrison, A., Ross, C. & Aderhold, V. (2004) Childhood trauma, loss and stress. In: J. Read, L. Mosher. & R.P. Bentall (Eds). Models of madness: Psychological, Social and Biological Approaches to Schizophrenia. Hove, Brunner-Routledge, 223-252.

Read, J., Van Os, J., Morrison, A.P. & Ross, C. A., (2005) Childhood trauma, psychosis and schizophrenia: a literature review with theoretical and clinical implications. Acta psychiatrica Scandinavica, 112, 330-350.

Resnik, S.G., Bond, G.R. & Mueser, K.T. (2003). Trauma and posttraumatic stress disorder in people with schizophrenia. Journal of Abnormal Psychology, 112, 415-423.

Richards, J.C., Austin, D.A. and Alvarenga, M.E. (2001). Interpretation of ambigious interoceptive stimuli in panic disorder and non-clinical panic. Cognitive Research and Therapy, 25, 235-46.

Rosenberg, S., Mueser, K., Friedman, M., Gorman, P.G., Robert, D., Drake, E., Vidaver, R.M., Torrey, W.C. & Jankowski, M.K. (2001). Developing effective treatments for posttraumatic disorders among people with severe mental illness. Psychiatric Services, 52, 1453-1461.

Ross, C. (2005) Schizophrenia: innovations in diagnosis and treatment. New York: Haworth Press.

Ross, C. & Joshi, S. (1992). Schneiderian symptoms and childhood trauma in the general population. Compr Psychiatr Scand, 33, 269-273.

Ross, C.A., Anderson G., & Clark, P. (1994). Childhood abuse and the positive symptoms of schizophrenia. Hospital Community Psychiatry, 45, 489–491.

Salkovskis, P.M. (1985). Obsessional-compulsive problems: a cognitive-behavioural analysis. Behaviour Research and Therapy, 25, 571-83.

Salkovskis, P.M. & Warwick, H.M.C. (1986). Morbid preoccupations, health anxiety and reassurance: a cognitive-behavioural approach to hypochondriasis. Behaviour Research and Therapy, 24, 597-602.

Sartorious, N., Jablensky, A., Korten, A., Emberg, G., Anker, M., Cooper, J.E., et al (1986). Early manifestations and first contact incidence of schizophrenia in different cultures. Psychological Medicine, 16, 909-928.

Sautter, F., Brailey, K., Uddo, M., Hamilton, M.F., Beard, M.G., & Gorges, A.H. (1999). PTSD and comorbid psychotic disorder. J Trauma Stress, 12, 73-88.

Sharpley M.S. & Peters, E.R. (1999). Ethnicity, class and schizotypy. Social Psychiatry and Psychiatric Epidemiology, 34, 507-512.

Sims, A. (2001). Symptoms in the Mind. An introduction to descriptive psychopathology. Saunders, London.

Startup, Freeman & Garety, P.A. (2007). Persecutory delusions and catastrophic worry in psychosis: Developing the understanding of delusion distress and persistence. <u>Behaviour Research and Therapy</u>.

Steel, C., Fowler, D. & Holmes, E.A. (2005). Trauma-related intrusions and psychosis: an information processing account. <u>Behavioural and Cognitive Psychotherapy</u>, 33, 139-152.

Taylor, S. E. (1988) Motives for offending among violent and psychotic men. <u>British Journal of Psychiatry</u>, 147, 491-498.

Thewissen, V., Myin-Germeys, I., Bentall, R., de Graaf, R., Vollebergh, W., & van Os, J. (2005). Hearing impairment and psychosis revisited. <u>Schizophrenia Research</u>, 76, 99-103.

Trimble, M. R., (1992). The schizophrenia-like psychosis of epilepsy. <u>Neuropsychiatry, Neuropsychology and Behavioural Neurology</u>, 5, 103-107.

Updegraff, J.A. & Taylor, S.E. (2000). From vulnerability to Growth: Positive and Negative Effects of Stressful Life Events. In J.H. Harvey & E.D. Miller(Eds)(pp 3-28). <u>Loss and Trauma: General and Close Relationships Perspectives</u>. Brunner-Routledge, Sussex.

Van den Bosch, R.J., van Asma, M.J., Rombouts, R. & Louwerens, J.W. (1992). Coping style and cognitive dysfunction in schizophrenic patients<u>. British Journal of Psychiatry</u>, (Suppl. 18), 123-128.

Van Putten, T. & Emory W. (1973). Traumatic neuroses in Vietnam returnees: forgotten diagnosis? <u>Arch Gen Psychiatry</u>, 29, 695-698

Ventura, J., Nuechterlein, K.H., Lukoff, D. & Hardesty, J.P. (1989). A prospective study of stressful life events and schizophrenic relapse. Journal of Abnormal Psychology, 98, 407-411.

Walston, F., Blennerhassett, R. C., & Charlton, B.G. (2000). Theory of mind, persecutory delusions and the somatic marker mechanism. Cognitive Neuropsychiatry, 5, 161-174.

Watt, N. F., Grubb, T. W., & Erlenmeyer-Kimling, L. (1982). Social, emotional and intellectual behaviour among children at high risk for schizophrenia. Journal Consulting and Clinical Psychology, 50, 171-181.

Wells, A., & Mathews, G., (1994) Attention and emotion: A clinical perspective. LEA, Hove.

Winters, K.C. & Neale, J.M. (1983). Delusions and delusional thinking in psychotics: A review of the literature. Clinical Psychology Review, 3, 227-253.

Winther Helgeland, M.I. & Torgersen, S. (1997). Maternal representation of patients with schizophrenia as measured by the parental bonding instrument. Scandinavian Journal of Psychology, 38, 39-43.

APPENDIX 1. ETHICAL APPROVAL

Cambridgeshire and Peterborough NHS

Mental Health Partnership NHS Trust

A Cambridge University Teaching Trust

Cambridgeshire 3 Research Ethics Committee

Victoria House
Capital Park
FULBOURN
Cambridge
CB21 5XB

Telephone: 01223 597597
Facsimile: 01223 597645

30 November 2007

Mr Gustavo Camino
Trainee Clinical Psychologist
University of Hertfordshire
Child & Family Clinic
Southgate Health Centre, Southgate
Stevenage, Herts
SG1 1HB

Dear Mr Camino

Full title of study: Study of Paranoid ideation using a computer generated environment with Clinical Participants

REC reference number: 07/H0306/99

Thank you for your letter of 15 November 2007 enclosing version 3 of the Participant Information Sheet and Consent Form for the above study. We note that these have been revised in line with the Vice-Chair's request and I am happy to confirm that Committee's favourable opinion for the study is now unconditional.

07/H0306/99	Please quote this number on all correspondence

Yours sincerely

Robin Scovil
REC Assistant Administrator

E-mail: robin.scovil@eoe.nhs.uk

Promoting Mental Well-being through Partnership

Copy to: Professor John Senior,   Dean of Engineering and Information Sciences,
University of Hertfordshire,   Office C258,   College Lane,
Hatfield,   Herts,   AL10 9AB

Ms Natércia Godinho,   Research and Development Co-ordinator,
Cambridgeshire and Peterborough MHP NHS Trust,
Department of Clinical Psychology,
Elizabeth House,   Fulbourn Hospital,   Cambridge,   CB21 5EF

APPENDIX 2. REGISTRATION WITH R&D DEPARTMENT.
CAMBRIDGESHIRE & PETERBOROUGH MENTAL HEALTH TRUST

Cambridgeshire & Peterborough **NHS**
Mental Health Partnership NHS Trust
A Cambridge University Teaching Trust

Please reply to: Natércia Godinho
R&D Manager
CPMHT
Springbank
Box 338
Cambridge, CB21 5EE

Your ref:07H0306/99
Date: 05/12/2007

Mr Gustavo Camino
Trainee Clinical Psychologist
University of Hertfordshire
Child & Family Clinic
Southgate Health Centre, Southgate
Stevenage, Herts
SG1 1HB

Tel:	01223 218739
Mob:	07887760481
Fax:	01480 398500
E-Mail:	natercia.godinho@cambsmh.nhs.ul
Website:	www.cambsmh.nhs.uk

Dear Mr. Camino

Full title of study: Study of paranoid ideation using a computer generated environment with clinical participants

The Trust Research and Development team have reviewed your research submission and we are pleased to grant Trust approval for the above research on the basis described in the application form, protocol and supporting documentation.

Thank you for applying for NHS permission to Conduct Research for the above named project. This study has now been validated and reviewed according to the Standard Operating Procedure for research appraisal. The study therefore has been granted the following level of approval on the basis described in the application form, protocol and supporting documentation:

Full Approval	☒	Approval in Principle	☐	Approval refused	☐

Trust approval of the above research applies to the research sites listed on the application form. Any changes to the above research should be communicated to this Trust and to the relevant Ethics Committee, and protocols followed accordingly.

The Trust notes that the University of Herts has agreed to act as sponsor of the research.

Please note that any adverse events relating to this research should be notified to me. In accordance with the Trust Incident Reporting procedures you would also need to complete a risk incident form that can be found on http://www.cambsmh.nhs.uk/documents/Risk/Incident_Reporting_and_SUI_Policy_January_2006.pdf?preventCache=17%2F08%2F2007+12%3A01

Promoting Mental Well-being through Partnership

Headquarters: Kingfisher House, Kingfisher Way, Hinchingbrooke Business Park, Huntingdon, Cambridgeshire PE29 6FH

Cambridgeshire & Peterborough **NHS**

Mental Health Partnership NHS Trust

A Cambridge University Teaching Trust

Research Governance requires monitoring and auditing of all research projects. I ask that you let me have copies of any annual and final reports as well as details of any papers published arising out of your research.

We wish you well with your research. If we can be of further help, please do not hesitate to contact us.

Yours sincerely

Natércia Godinho
R&D Manager

Promoting Mental Well-being through Partnership

Version 3
15th November 2007

An investigation into how we develop worries about other people
Participant Information Sheet

I am a trainee Clinical Psychologist studying at the University of Hertfordshire. I would like to invite you to take part in a research study that I am conducting and would like to tell you some more about it. Please read through this information carefully and take as much time as you need in considering whether you would like to take part. Please feel free to ask questions and also to take this away and discuss it with others (your family for example). If you have any further questions after our meeting, please feel free to contact me on the number provided at the bottom.

What is the purpose of the study?

As part of my studies, I am interested in discovering more about how people react to computer environments with the aim to develop understanding of "everyday worries about other people". For example, I would like to find out how people form their first impression of strangers. This ability is related to our knowledge of social events. By investigating how people interact with computer characters, I hope to understand more about how social information is organized in people's minds and what makes people worry about others.

Why have I been chosen?

You have been asked to take part as someone who may have some mental health difficulties. The current study is designed to develop a better understanding of how these difficulties lead to "worry about other people".

Do I have to take part?

You are under no obligation to take part in this study and if you decide you do not want to take part, you do not have to give a reason and this will not affect your care in any way. If you do wish to take part, you will be asked to read and keep this information sheet and to sign a consent form to show you understand what is involved in the study. Once we begin, you are free to withdraw at any time without giving a reason and your care will not be affected if you choose to stop.

What will happen if I take part?

If you decide to take part, a member of the research team (Gus Camino) can arrange an appointment at a time and place which is convenient to you to

continue the study. With your permission your key worker will be notified of your involvement in this study.

Here is a description of what is involved in the study:

. This study consists of a small task which involves interacting with a computer for about 4 minutes. This will involve using a mouse to access three filmed scenes which you will be asked to explore. I will show you how to use the mouse and you will have a chance to practice. You will see a room on the computer where there will be people and I will ask you to explore the room and observe what the people are doing.

. When you finish the simulation I will present you several questionnaires related to the tasks (these will be asking you about your opinions of the people in the movie and how their behavior made you feel) and other questionnaires related to your mental health (these will be asking you about your emotions and also your childhood experiences).

I will explain each step in detail before you begin. You can ask any questions as we go along. It will take up to an hour and a half to complete the research but this can be done in two separate sessions of around 45 minutes each if you would prefer. Throughout the testing process, you are free to take breaks whenever you wish.

Will taking part in this study be kept confidential?

With your permission, I would like to inform your key worker if you decide to take part in this study. This means that you will be able to discuss the study with them although I will not be telling them anything about what you said about the task or your answers to the questionnaires. In fact your responses will be kept strictly confidential and will only be seen by Gustavo Camino. The only situation where confidentiality would be broken is if we were concerned about your safety or anyone else's. In this case, we would be obliged to contact your care team. However, we would inform you of our intention before doing this.

All results of this study will be anonymous so your name will not appear in the reports of the study. Your responses will be stored without your name or any identifying details in a locked filing cabinet at the University of Hertfordshire. The research team will be the only people who have access to the data for the purposes of analysis. The data will be kept securely for up to 15 years and after this time will be destroyed securely.

What if there is a problem?

Some of the questions I ask you may trigger memories of upsetting experiences. This is only a small part of the study and I am trained to help you if you do find

this upsetting. You also do not have to answer any questions that make you feel uncomfortable. If you do become upset you will have the option to talk to Dr Perez about your feelings as they will know that you are taking part. If you have a concern about any aspect of this study, you should ask to speak to myself

(Gustavo Camino) and I will do my best to answer your questions (Mobile Phone: 07809559121). If you remain unhappy and wish to complain formally, you can contact the Patient Advice and Liaison Services (PALS) at the hospital by telephoning 01733 758 584.

Who has reviewed the study?

The study has been reviewed by an NHS Ethics Review Board (Cambridgeshire 3) and approval was given on the 30/11/07.

Who should I contact for further information?

If you have any questions you can contact me (Gus Camino) on (contact number). In addition your psychiatrist and key worker will know some details about the study.

I hope that this information sheet has provided you with all the information you may need and that I have answered all your questions about this research. If you would like more information, or wish to discuss anything relating to this experiment please feel free to contact me. At the end of the study, you will be able to request a copy of the results of this study.

Thank you in advance for agreeing to take part in this study.

Mr Gustavo Camino
Trainee Clinical Psychologist
University of Hertfordshire

APPENDIX 4. WRITTEN CONSENT

CONSENT FORM - Patients

Title of Project: An investigation into how we develop worries about other people

Name of Researcher: Gustavo Camino

Please initial box

1. I confirm that I have read and understand the information sheet dated 15th November 2007 for the above study and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.

3. I give permission for Gus Camino to inform my key worker that I am going to take part in the study.

4. I understand that my responses will be treated in the strictest confidence and that my name will not appear on any questionnaires.

3. I agree to take part in the above study.

_____   _____   _____

Name of Participant   Date   Signature

_____   _____   _____

Researcher   Date   Signature

245

APPENDIX 5. BECK DEPRESSION INVENTORY

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness
- 0   I do not feel sad.
- 1   I feel sad much of the time.
- 2   I am sad all the time.
- 3   I am so sad or unhappy that I can't stand it.

2. Pessimism
- 0   I am not discouraged about my future.
- 1   I feel more discouraged about my future than I used to be.
- 2   I do not expect things to work out for me.
- 3   I feel my future is hopeless and will only get worse.

3. Past Failure
- 0   I do not feel like a failure.
- 1   I have failed more than I should have.
- 2   As I look back, I see a lot of failures.
- 3   I feel I am a total failure as a person.

4. Loss of Pleasure
- 0   I get as much pleasure as I ever did from the things I enjoy.
- 1   I don't enjoy things as much as I used to.
- 2   I get very little pleasure from the things I used to enjoy.
- 3   I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings
- 0   I don't feel particularly guilty.
- 1   I feel guilty over many things I have done or should have done.
- 2   I feel quite guilty most of the time.
- 3   I feel guilty all of the time.

6. Punishment Feelings
- 0   I don't feel I am being punished.
- 1   I feel I may be punished.
- 2   I expect to be punished.
- 3   I feel I am being punished.

7. Self-Dislike
- 0   I feel the same about myself as ever.
- 1   I have lost confidence in myself.
- 2   I am disappointed in myself.
- 3   I dislike myself.

8. Self-Criticalness
- 0   I don't criticize or blame myself more than usual.
- 1   I am more critical of myself than I used to be.
- 2   I criticize myself for all of my faults.
- 3   I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes
- 0   I don't have any thoughts of killing myself.
- 1   I have thoughts of killing myself, but I would not carry them out.
- 2   I would like to kill myself.
- 3   I would kill myself if I had the chance.

10. Crying
- 0   I don't cry anymore than I used to.
- 1   I cry more than I used to.
- 2   I cry over every little thing.
- 3   I feel like crying, but I can't.

Subtotal Page 1

Continued on Back

0154018392

NR15645

11. Agitation

0   I am no more restless or wound up than usual.

1   I feel more restless or wound up than usual.

2   I am so restless or agitated that it's hard to stay still.

3   I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest

0   I have not lost interest in other people or activities.

1   I am less interested in other people or things than before.

2   I have lost most of my interest in other people or things.

3   It's hard to get interested in anything.

13. Indecisiveness

0   I make decisions about as well as ever.

1   I find it more difficult to make decisions than usual.

2   I have much greater difficulty in making decisions than I used to.

3   I have trouble making any decisions.

14. Worthlessness

0   I do not feel I am worthless.

1   I don't consider myself as worthwhile and useful as I used to.

2   I feel more worthless as compared to other people.

3   I feel utterly worthless.

15. Loss of Energy

0   I have as much energy as ever.

1   I have less energy than I used to have.

2   I don't have enough energy to do very much.

3   I don't have enough energy to do anything.

16. Changes in Sleeping Pattern

0   I have not experienced any change in my sleeping pattern.

1a   I sleep somewhat more than usual.

1b   I sleep somewhat less than usual.

2a   I sleep a lot more than usual.

2b   I sleep a lot less than usual.

3a   I sleep most of the day.

3b   I wake up 1-2 hours early and can't get back to sleep.

17. Irritability

0   I am no more irritable than usual.

1   I am more irritable than usual.

2   I am much more irritable than usual.

3   I am irritable all the time.

18. Changes in Appetite

0   I have not experienced any change in my appetite.

1a   My appetite is somewhat less than usual.

1b   My appetite is somewhat greater than usual.

2a   My appetite is much less than before.

2b   My appetite is much greater than usual.

3a   I have no appetite at all.

3b   I crave food all the time.

19. Concentration Difficulty

0   I can concentrate as well as ever.

1   I can't concentrate as well as usual.

2   It's hard to keep my mind on anything for very long.

3   I find I can't concentrate on anything.

20. Tiredness or Fatigue

0   I am no more tired or fatigued than usual.

1   I get more tired or fatigued more easily than usual.

2   I am too tired or fatigued to do a lot of the things I used to do.

3   I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex

0   I have not noticed any recent change in my interest in sex.

1   I am less interested in sex than I used to be.

2   I am much less interested in sex now.

3   I have lost interest in sex completely.

Subtotal Page 2

Subtotal Page 1

Total Score

NR15645

3456789101112 ABCDE

247

APPENDIX 6. BECK ANXIETY INVENTORY

Beck Anxiety Inventory

Below is a list of common symptoms of anxiety.   Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

	Not At All	Mildly but it didn't bother me much.	Moderately - it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	0	1	2	3
Feeling hot	0	1	2	3
Wobbliness in legs	0	1	2	3
Unable to relax	0	1	2	3
Fear of worst happening	0	1	2	3
Dizzy or lightheaded	0	1	2	3
Heart pounding/racing	0	1	2	3
Unsteady	0	1	2	3
Terrified or afraid	0	1	2	3
Nervous	0	1	2	3
Feeling of choking	0	1	2	3
Hands trembling	0	1	2	3
Shaky / unsteady	0	1	2	3
Fear of losing control	0	1	2	3
Difficulty in breathing	0	1	2	3
Fear of dying	0	1	2	3
Scared	0	1	2	3
Indigestion	0	1	2	3
Faint / lightheaded	0	1	2	3
Face flushed	0	1	2	3
Hot/cold sweats	0	1	2	3
Column Sum				

Scoring - *Sum each column.   Then sum the column totals to achieve a grand score. Write that score here _____ .*

APPENDIX 7. TRUST & POWER QUESTIONNAIRES

Trust Questionnaire

In relation to character 1

During the simulation…	**Never True**	**Rarely True**	**Sometimes True**	**Often True**	**Very Often True**
If he tried to talk to me I would have felt comfortable responding	4 points	3 points	2 points	1 points	0 points
I thought that he could end up being my friend	4 points	3 points	2 points	1 points	0 points
I would not mind to let him know more about me	4 points	3 points	2 points	1 points	0 points
I felt that I would never trust that person	0 points	1 points	2 points	3 points	4 points
I felt curious to initiate a conversation with that person	4 points	3 points	2 points	1 points	0 points

Power Questionnaire

In relation to character 1

During the simulation…	Never True	Rarely True	Sometimes True	Often True	Very Often True
I felt small next to him	0 points	1 points	2 points	3 points	4 points
I thought he was cooler than me	0 points	1 points	2 points	3 points	4 points
I felt he was more attractive than me	0 points	1 points	2 points	3 points	4 points
I felt he was threatening	0 points	1 points	2 points	3 points	4 points
I thought he was more intelligent / wiser	0 points	1 points	2 points	3 points	4 points
I felt that I worth it compared him	4 points	3 points	2 points	1 points	0 points

APPENDIX 8. FACES QUESTIONNAIRE

Faces Questionnaire

In relation to character 1

During the simulation…	Never True	Rarely True	Sometimes True	Often True	Very Often True
His face expressed a clear emotion	0 points	1 points	2 points	3 points	4 points
His face was expressionless	4 points	3 points	2 points	1 points	0 points
He was sad	0 points	1 points	2 points	3 points	4 points
He was angry	0 points	1 points	2 points	3 points	4 points
His face expressed indifference	4 points	3 points	2 points	1 points	0 points
He was relaxed	4 points	3 points	2 points	1 points	0 points
He was happy	4 points	3 points	2 points	1 points	0 points
His face expression made me feel interested on him	4 points	3 points	2 points	1 points	0 points
His face expression made me feel indifferent	4 points	3 points	2 points	1 points	0 points
His face expression made me feel scared	0 points	1 points	2 points	3 points	4 points
His face expression made me feel worried	0 points	1 points	2 points	3 points	4 points

APPENDIX 9 . DETAILS OF THREAT QUESTIONNAIRE

This questionnaire has ten questions about the harm that you believe is going to happen or is happening.

    1. Do you know who it is that is trying to harm you?

Yes/Maybe/No

If you answer is yes or maybe, who do you think it might be?

    2. How powerful is the person(s) trying to harm you? Please circle a number

0	1	2	3	4	5	6	7	8	9	10

No Power   Extremely Powerful

    3. What exactly is the type of harm that you expect to happen or that is happening (e.g. what is the threat physical or verbal or both?

    4.When do you think the harm is most likely to happen? Please circle on of the time periods below

Long term   //////   Short Term

    5.Where will the harm most likely occur? Please circle one of the options

Inside the house   /// Outside the house

    6.How sure are you that the harm is happening? Please give a percentage estimate of the strength of your belief (0-100%)………………

7. How distressing is your belief that harm is going to happen or is occurring? Please circle a number.

0   1   2   3   4   5   6   7   8   9   10
Not Distressing   Extremely Distressing

8. If the threat did happen, how awful would it be? Please circle a number

0   1   2   3   4   5   6   7   8   9   10
Not   Awful   Extremely Awful

9. How well would you cope if the threat did occur? Please circle a number.

0   1   2   3   4   5   6   7   8   9   10
Could not   cope at   all   Would cope extremely
well

10. Sometimes people who think harm is going to happen think that they may deserve this harm.

Do you feel as if you deserve to be harmed in the way you have talked about? Please circle one of the options:

Yes/No/Maybe.

Threat Questionnaire Scoring System

If the person answers yes or maybe to the first question, score:

Question 1: yes 2 points, maybe, 1 point, No 0 points
Question 2: score 0 to 10 depending on the persons choice
Question 3: score 1 point (one threat e.g. physical) score 2 points (two threats e.g. physical and moral)
Question 4: 1 point for one time period, 2 points for two time periods
Question 5: 1 point for one option, 2 points for two options
Question 6: score 0 to 10 depending on the percentage (e.g. 60% = 6 points)
Question 7: score 0 to 10 depending on the persons choice
Question 8: score 0 to 10 depending on the persons choice
Question 9: score 0 to 10 depending on the persons choice 0 (could not cope at all is 10-could cope extremelly well is 0)
Question 10: score 2 points for yes, 1 point for maybe, 0 points for No.

APPENDIX 10. VR QUESTIONNAIRE

VR Questionnaire

(Freeman, Garety, Bebbington, Slater,, Kuipers, Fowler, Green, Jordan, Ray, Dunn (2005)

Please indicate which statement describes better your opinion about the characters in the house by ticking in the appropriate box

	I do not agree	I agree a little	I agree moderately	I totally agree
1.Someone in the house was hostile towards me.				
2.Someone in the house would have harmed me in some way if they could.				
3.Someone in the house had it in for me.				
4.Someone in the house was trying to make me distressed.				
5.Someone in the house had bad intentions towards me.				
6.The people in the house were neutral towards me.				
7.The people in the house did not have any intentions towards me.				
8.The people in the house were unconcerned by my presence.				
9.I wasn't really noticed by the people in the house.				
10.The people in the house had no particular feelings about me.				
11.The people in the house were friendly towards me.				
12.The people in the house were pleasant people.				
13.The people in the house were trustworthy.				
14.The people in the house had kind intentions towards me.				
15.I felt very safe in their company.				

APPENDIX 11. CHILDHOOD TRAUMA QUESTIONNAIRE

Berstein, D.P. & Fink, L. (1998). Childhood Trauma Questionnaire. A retrospective Self-Report. The Psychological Corporation, San Antonio.

Childhood Experiences

When I was growing up	Never True	Rarely True	Sometimes True	Often True	Very Often True
1. I did not have enough to eat.					
2. I knew that there was someone to take care of me and protect me.					
3. People in my family called me things like "stupid", "lazy", or "ugly".					
4. My parents were too drunk or high to take care of the family.					
5. There was someone in my family who helped me feel that I was important or special.					
6. I had to wear dirty clothes.					
7. I felt loved.					
8. I thought that my parents wished I had never been born.					
9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital					
10. There was nothing I wanted to change about my family.					
11. People in my family hit me so hard that it left me with bruises or marks.					
12. I was punished with a belt, a board, a cord, or some other hard object.					
13. People in my family looked out for each other.					
14. People in my family said hurtful or insulting things to me.					
15. I believe that I was physically abused.					
16. I had the perfect childhood.					

17. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbour or doctor.					
18. I felt that someone in my family hated me.					
19. People in my family felt close to each other.					
20. Someone tried to touch me in a sexual way, or tried to make me touch them.					
21. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.					
22. I had the best family in the world.					
23. Someone tried to make me do sexual things or watch sexual things.					
24. Someone molested me.					
25. I believe that I was emotionally abused.					
26. There was someone to take me to the doctor if I needed it.					
27. I believe that I was sexually abused.					
28. My family was a source of strength and support					

APPENDIX 12

DVD Containing Interactive Video Task

A COMPARISON OF PARANOID IDEATION IN CLIENTS WITH PSYCHOSIS OR ANXIETY DISORDERS DURING AN INTERACTIVE VIDEO TASK

Journal Ready Article

Word Count: 4182

July 2008

A COMPARISON OF PARANOID IDEATION IN CLIENTS WITH PSYCHOSIS OR ANXIETY DISORDERS DURING AN INTERACTIVE VIDEO TASK

Camino[1], G., Done[1], J., Cleaver[2], J. and Doughty[1], O.

[1] **School of Psychology, University of Hertfordshire**
[2] **North Essex Partnership Foundation Trust**

ABSTRACT

Background. Previous studies have shown that the use of simulated social environments permits paranoid thinking to be studied. These studies have used a cognitive model of paranoia and suggest that anxiety predisposes people to the paranoid experience (Freeman & Garety, 2004a). An alternative model of paranoid thoughts considers that external attributions of negative events are critical in paranoid thinking (Bentall, Corcoran, Howard, Blackwood & Kinderman, 2001). The aim of the present research was to study the presence paranoid-like thoughts using a simulated social encounter task in psychotic and anxious participants.

Method. 15 individuals with paranoid delusions, 11 with anxiety disorders and 14 non-clinical controls experienced a simulated social encounter task populated by four filmed characters instructed to behave neutrally (n=40). After the task, the participants completed questionnaires to describe their experience of the situation. 5 questionnaires were use to study paranoid thoughts. The first two were the Details of Threat questionnaire and the VR questionnaire. The other 3 were designed specifically for the study (faces, trust and power questionnaires). Additionally, the Beck Anxiety and Depression Inventories were used as indicators of emotional distress.

Results. Presence of anxiety and depression were found in both clinical groups. Appraisals about the filmed characters from the clinical participants but not from the non-clinical ones were suspicious. Further, over-sensitivity towards the neutral faces of the characters distinguished again, clinical and non-clinical participants.

Conclusions. Paranoid-like thinking was elicited in clinical participants using a simulation of a social situation but not in normal controls. The results provide support for the Freeman & Garety's cognitive model of paranoid delusions but are inconsistent with Bentall and colleagues' model.

Key Words: Paranoia, Psychosis, Anxiety, Cognitive Models, Simulated Social Encounter Task.

Introduction

An increasing number of papers in scientific journals provide evidence that delusions lie within a continuum with normality. The clinical literature associated with this evidence is starting to offer cognitive models as a framework with which to understand and treat delusional beliefs. This trend towards the study of specific symptoms like delusions in isolation instead of exploring psychotic disorders as a whole defies the traditional view of studying disorders as diagnostic categories and blurs the distinction between the normal and the pathological. It also suggests that different disorders may share similar underlying mechanisms with respect to their constituent symptoms (Harvey, Watkins, Mansell & Shaffran, 2006). In this respect, specific models describing the formation and maintenance of persecutory delusions are now being considered for empirical testing. A cognitive model proposed by Freeman and Garety (2004a) suggests that persecutory delusions are the product of the complex interaction between cognitive biases and emotional processes, in which anxiety is a key factor. In Bentall and colleagues' (2001) model the central aspect that explains persecutory ideas is that paranoid people have negative beliefs about themselves. They avoid the activation of these beliefs by attributing external events of a threatening nature to the actions of other people. These ideas are stimulating the development of psychological interventions for psychosis, which challenges the traditional and dominant medical model in

mental health and helps to construct delusions on a continuum with normal psychological phenomena.

Emotion and psychosis

Affective processes have been identified as etiological factors in the development of psychotic phenomena. These processes are supposed to create the initial conditions for the onset of psychotic symptoms and do not require a close temporal connection with the initiation of the disorder. In that respect, there are studies linking childhood trauma (e.g. Morrison, Frame & Larkin, 2003; Read, Van Os, Morrison & Ross, 2005) or poor social adjustment during adolescence (e.g. Malmberg, Lewis, David & Allebeck, 1998) with the development of psychotic symptoms. Berenbaum, Valera & Kerns (2003) found that psychological trauma can contribute to the development of schizotypal thinking. Kilcommons & Morrison's study (2005) suggest that psychosis is trauma-associated and consider delusions to occur from intrusions into awareness. They may take the form of thoughts, hallucinations or bodily sensations that arise without the restrictions of the person's cultural context (e.g. an unfounded thought that assumes that the patient is subjected to terrorist espionage). These interpretations are believed to be mainly generated by faulty self and social knowledge. Such an approach proposes that psychosis represents the end-point of an altered developmental process (Bentall, Fernyhough, Morrison, Lewis & Corcoran, 2007). Other studies have investigated affective difficulties that may be closer in time with the beginning of a psychotic disorder such as social disadvantage and isolation (e.g. Freeman & Garety, 2004a).

Anxiety and paranoid ideation

Other studies concerned with affective processes without ignoring the importance of factors such as childhood trauma, have shown more interest in the role of current anxiety in the development of paranoid delusions (Freeman and Garety,

2003; Freeman, Garety, Bebbington, Slater, Kuipers, Fowler, Green, Jordan, Ray & Dunn, 2005b). More specifically, it has been suggested that paranoid thinking and thoughts related to anxiety (e.g. worry, catastrophic thinking, anticipatory fears) coexist (Freeman & Garety, 1999) and that other tendencies found in people with anxiety are also present in those experiencing persecutory beliefs (e.g. safety behaviours) (Freeman, Garety & Kuipers, 2001). Furthermore, there is evidence suggesting that anxiety predicts the occurrence of paranoid thoughts (Freeman, 2007).

The study of paranoid ideation in simulated environments

When deluded patients have been assessed, some studies have used methodologies that do not warrant the identification of unfounded beliefs. For instance, the use of a self-report measure or a questionnaire does not necessarily distinguish between a genuine delusion and a belief that is the result of a real experience (Freeman, 2007). Alternative methodologies could aid in improving the quality of the data. Computer generated environments have been used to provide a simulated arena where suspiciousness can be elicited by neutral characters (Freeman & Garety, 2004b; Freeman, Slater, Bebbington, Garety, Kuipers, Fowler, Met, Read, Jordan, & Vinayagamoorthy, 2003). The outcome of these studies using normal subjects suggest that people with anxiety score higher in measures of suspiciousness supporting the idea that persecutory phenomena are explicable in terms of normal psychological processes. No studies of this nature have however attempted to include clinical participants. Possibly connected with this weakness may be that, although very innovative, these studies involve the use of special resources (e.g. virtual reality environments require special rooms and equipment) and tasks that could make the recruitment of psychotic patients very intricate and also the ethics of the studies. This could, for instance, be due to the need to invite the patient to enter a dark room and wear a helmet which could potentially be very threatening for patients with paranoid delusions. Another criticism is that the use of artificial

characters does not reflect the complexity of human facial and behavioural nature.

Aims of the study

The present study attempts to overcome these shortcomings by developing a short film in which real people are filmed in a social situation and the participant of the study can watch the film on a laptop. With these resources the present research aims to observe similarities and differences amongst patients diagnosed with psychosis and patients diagnosed with anxiety. Research on the effects of anxiety has suggested that it may contribute to the formation of persecutory thoughts (Freeman & Garety, 2004a). Following Freeman and Garety's model of paranoia which assumes the existence of a continuum between normality and abnormality, it would be expected that individuals with anxiety may experience a degree of subclinical delusional symptomatology. If anxiety is a key factor in the formation and maintenance of suspiciousness maybe clinically anxious people would be able to experience some form of suspiciousness after watching an ambiguous social situation. More specifically, we expect to find that a simulated environment may elicit similar levels of paranoid-like thoughts in anxious and psychotic participants.

Material and Methods

Participants

Patients were recruited from a Community Mental Health Team from Peterborough. Normal control participants were recruited via advertising in local surgeries and at the University of Hertfordshire. Sixty potential participants, in total, were identified from this process. The mean age of participants was 35.5, SD=11.05. Their ethnicity was: White (n=33), Mixed race (n=2), Asian (n=4) and African (n=1). See Table 1 for demographic data of the sample.

Variable	Sample Size (%) (n=40)	Group 1 (Anxious)	Group 2 (Psychotic)	Group 3 (Normal)	Statistic
Gender					X² p=.649
Male	29 (72.5%)	7 (63.6%)	12 (80%)	10 (71.4%)	
Female	11 (27.5%)	4 (36.4%)	3 (20%)	4 (28.6%)	
Ethnicity					X² p=.470
White European	33 (82.5%)	10 (90.9%)	11 (73.3%)	12 (85.7%)	
Other	7 (17.5%)	1 (9.1%)	4 (26.7%)	2 (14.3%)	
Age					F-ratio p=.758
Mean	35.5	37.27	33.93	35.21	
Range	22-58	22-56	23-54	23-58	
SD	11.05	12.28	9.58	12.00	
Higher Education					X² p=.183
Yes	8 (20%)	1 (9.1%)	2 (13.3%)	5 (35.7%)	
No	32 (80%)	10 (90.9%)	13 (86.7%)	9 (64.3%)	
Employment					X² p=.679
Employed	15 (37.5%)	1 (9.1%)	7 (46.7%)	7 (50%)	
Unemployed	24 (60%)	10 (90.9%)	7 (46.7%)	7 (50%)	
Retired	1 (2.5%)	0 (0%)	1 (6.6%)	0 (0%)	
Marital Status					X² p=.183
Single	22 (55%)	6 (54.5%)	9 (60%)	7 (50%)	
Married	18 (45%)	5 (45.4%)	6 (40%)	7 (50%)	
Divorced/Separated	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Widowed	0 (0%)	0 (0%)	0 (0%)	0 (0%)	

Table 1. Sample Characteristics.

Measures

Beck Depression Inventory – Second Edition (BDI-II) (Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report instrument for measuring the severity of depression in adults and adolescents aged 13 years and older. This version of the inventory (BDI-II) was developed for the assessment of symptoms corresponding to criteria for diagnosing DSM depressive disorders, giving an overall severity scale.

Beck Anxiety Inventory (BAI) (Beck, Epstein, Brown & Steer, 1988). The BAI is a 21 item scale that measures the severity of anxiety in adults and adolescents. The BAI can be used to identify anxiety and somatic symptoms, giving an overall severity scale.

Trust questionnaire. Participants were be asked to rate the level of trust that they would give to the characters presented in the computer-generated scenario, on a Likert scale. The questionnaire consists of 5 items. (See Appendix for details of the items ratings).

Power questionnaire. Participants were asked to rate the power of the filmed characters from the simulated environment on a Likert-type measurement format The questionnaire consisted of 6 items. (See Appendix for details of the items ratings).

Faces Questionnaire. Participants were asked to describe the emotional state of the actors' faces on a Likert-type measurement format. The questionnaire consisted of 11 items. (See Appendix for details of the items ratings).

Details of threat questionnaire (Freeman, Garety & Kuipers, 2001). Questionnaire designed to identify the harm that the participant believed was going to happen in relation to the filmed characters that they saw during the simulated social scenario. The questionnaire consists of 10 items. (See Appendix for details of the items ratings).

VR questionnaire (Freeman, et al., 2005). Self-report questionnaire designed to identify persecutory beliefs related to the filmed characters from the simulation (See Appendix). The questionnaire consists of 15 items, each rated on a 1 to 4 scale (1=do not agree, 2=agree a little, 3=agree moderately, 4=totally agree).

Procedure

The data collection involved a single session. The initial part of the session gathered demographic data (e.g. gender, age, ethnicity, etc) and a conversation about the project (e.g. details about the simulation and questionnaires) and about the participant (e.g. the participant's own understanding of their difficulties). To prevent priming of reactions to the simulation, participants were not informed that the research was studying paranoid thoughts.

Participants were first instructed in the use of the mouse and keyboard, and given a chance to practice if they were unfamiliar. Then participants received the instructions: *Please explore this house, and try to form some impressions of what you think and how you feel about the people in the house and what they think about you*. Although the filmed environment was a video, the participants were able to choose where to go (e.g. kitchen or lounge). There were four characters in the film, two men and two women. The characters showed neutral and ambiguous behaviours (e.g. looking, talking to each other). After the instructions participants were presented with the filmed video environment and were asked to explore using a mouse to enter different rooms of a house. After watching the video, participants were also asked to complete self-report questionnaires in relation to the task and other questionnaires related to their biography, delusional thoughts, anxiety and depression levels.

All the participants experienced the presentation of the video environment but no manipulation of the value of this factor occurred across groups.

After completing the questionnaires, the participants were invited to continue with a semi-structured interview which gathered information about the participants' biography and main events related with their mental health difficulties. This lasted approximately 1 hour.

Information elicited during the interview was grouped into categories in terms of the aetiology of the mental health difficulty (e.g. childhood trauma, drug use, adult trauma, etc), the clinical impression of the researcher (e.g. the participant conceals symptoms, shows clear symptoms of illness).

Data Analysis

Data Analysis was carried out using SPSS for Windows (version 12.0). An alpha level of 0.05 for statistical significance was used for all tests. All significance test results are quoted as one-tailed probabilities.

Results

Presence of anxiety and depression

As can be seen in Table 2 and 3 both clinical groups reported moderate levels of anxiety whereas the normal control group reported minimal levels of anxiety.

Non-parametric tests were used to analyse the presence of anxiety. A Kruskal-Wallis test indicated that there was a significant group effect $H(2)=24.266$, $p<.05$. Post-hoc tests using Mann-Whitney statistic were conducted. A Bonferroni correction was applied and so all effects are reported at a .0167 level of significance. It appeared that the clinical groups were similar to each other ($U=71$, $p=.283$, $r=-.117$) and the non-clinical group was different to the anxious ($U=.5$, $p<.001$, $r=-.842$) and to the psychotic group ($U=9$, $p<.001$, $r=.781$). Figure 1 shows the distribution of anxiety levels across groups.

Group	Mean	N	Std. Deviation
Anxious	24,90	11	8,23
Psychotic	23,93	15	12,73
Normal	7,71	14	1,72
Total	18,52	40	11,88

Table 2. Descriptive statistics for the Beck Anxiety Inventory in the 3 groups.

Anxiety Level	BAI Score
Minimal Level of Anxiety	0-7
Mild Anxiety	8-15
Moderate Anxiety	16-25
Severe Anxiety	26-63

Table 3. Levels of Anxiety and Scores as Described by the Beck Anxiety Inventory.
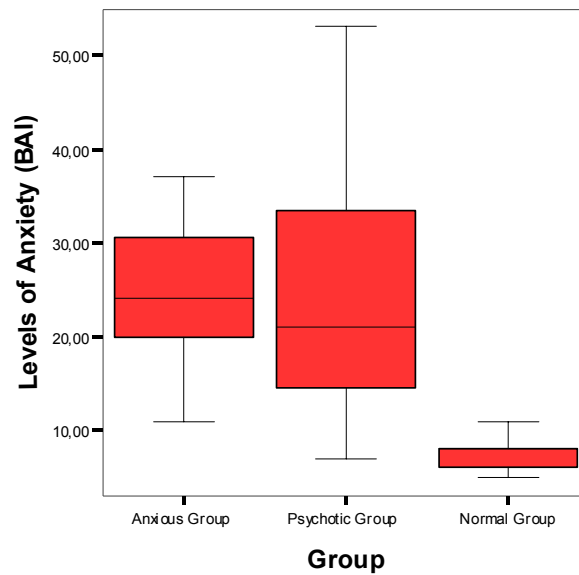
FIGURE 1. Distribution of anxiety levels for groups.

As can be seen in Tables 4 and 5, the clinical groups reported moderate levels of depression whereas the normal control group reported non detectable levels of depression.

A one-way ANOVA was conducted to evaluate the relationship between the presence of depression and the different groups of participants indicating that there was a group effect, $F(2, 37)=13.27$, $(p<.001)$, $r=.646$. Follow-up tests using planned contrasts suggested that was a significant difference in the means between the clinical groups and the normal group $t(37)=4.966$, $p<.001$, $r=.63$, but there was no significant difference between the clinical groups $t(37)=-.912$, $p>.05$, $r=.02$. Figure 2 shows the distribution of levels of depression across groups.

	N	Mean	Std. Deviation
Anxious Group	11	23,09	10,70
Psychotic Group	15	26,46	10,39
Normal Group	14	9,35	6,55
Total	40	19,55	11,90

Table 4. Depression (BDI) descriptives.

Mood Level	Beck Depression Inventory (BDI) Scores
Minimal Level of Depression	0-13
Mild Depression	14-19
Moderate Depression	20-28
Severe Depression	29-63

Table 5. Levels of Depression and Scores as Described by the Beck Depression Inventory.

FIGURE 2. Distribution of depression levels for groups.

Analyses investigating the presence of paranoid ideation

A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of the clinical presentations of the participants on the five dimensions of paranoid thinking. Significant differences were found among the three clinical presentations on the dependent measures, Pillai´s Trace=.987 $F(10, 68)=6.62$, $p<.001$. The effect size was obtained from the multivariate η^2 based on Pillai´s Trace which was quite strong, .493. The results indicate that there was a main effect of group on the different dimensions of paranoia.

Individual ANOVAs were carried out for those paranoia dimensions that showed normality and homogeneity. The results suggest that there was a main effect of group on the levels of paranoia experienced by the participants when they answered the VR questionnaire (Perceived Hostility) $F(2, 37)=31.62$, $p<.05$, $r=.631$, the Trust questionnaire (Trust) $F(2, 37)=38.13$, $p<.05$, $r=.673$, and the Faces questionnaire (Faces) ($F(2, 37)=33.67$, $p<.05$, $r=.645$. Post-hoc analysis using Tukey test were carried out on the independent variable group to compare

each group with the previous three paranoia dimensions. The results revealed that being in the psychotic or anxious groups significantly elevated all the paranoid thinking measures, but the same did not happen in the normal control group.

Non-parametric tests with the threat and power questionnaires where carried out. Kruskal-Wallis indicated that the participants' response to the Threat questionnaire was significantly affected by group (H(3)=26.019, p<.001). Mann-Whitney tests were used to follow up this finding. A Bonferroni correction was applied so all effects are reported at a .0176 level of significance. It appeared that the participants' response to the Threat questionnaire were no different when the clinical groups were compared (U=80, r=-.025, p=.454). However, the non-clinical group scores in the Threat questionnaire were significantly lower than the anxious (U=7, r=-.865, p<.001) and the psychotic group (U=0,   r=-.903, p<.001).

The participants' response to the power questionnaire was also significantly affected by group (H(3)=28.455, p<.001). It appeared that the participants' response to the Power questionnaire were no different when the clinical groups were compared (U=43.5, r=-.39, p=.021). However, the non-clinical group's scores in the Power questionnaire were significantly lower than the anxious group (U=0, r=-.846, p<.001) and the psychotic group (U=0,   r=-.852, p<.001).

With regards to the relationship between the dependent variables (paranoia dimensions) the analysis indicated that there were no significant relationships between dependent variables. Figure 3 shows a depiction of the paranoid dimensions across groups.

FIGURE 3. Variation of scores between groups for the five dimensions of paranoid thinking.

Kendall's tau (a non-parametric test) was used to study the correlation between two dimensions of paranoia and anxiety. The results showed that, within the anxious group, anxiety was correlated with the VR questionnaire (Kendall's tau=.52, p<.05) but not with the Threat questionnaire (Kendall's tau=.127, p=.293). The opposite pattern occurred in the psychotic group respectively (Kendall's tau=.123, p=.271; Kendall's tau=.410, p<.05)).

Discussion

The present research was aimed at studying the presence of paranoid-like ideation in people with psychosis or anxiety using a simulated social encounter task. The results indicated that the simulated environment was able to identify paranoid thoughts in both clinical groups. Comorbidity was shown in both clinical groups supporting similar findings in previous studies (Mueser, Rosenberg, Xie,

Jankowski, Bolton, Lu, Hamblen, Rosenberg, McHugo & Wolfe, 2008; Matejkowski, Cullen & Solomon, 2008). With regards to levels of paranoid thinking, again both groups were similar reporting significantly more paranoid thoughts than the normal control group. Previous studies have also found that paranoid thinking is observable in normal subjects with high anxiety using a simulated task (Freeman, et al., 2005b). However, in the present study clinical subjects with no symptoms of psychosis reported suspicious thoughts after experiencing a simulated environment. Freeman and Garety's model of paranoia proposes that anxiety is key in the development of paranoid thoughts. The results of the study are consistent with the model and support the idea that paranoid thinking is linked to anxiety (Freeman, 2007). Bentall and colleagues' model does not predict anxious people reporting paranoid-like thoughts and does not predict paranoid people reporting depression. Therefore, this model is not supported by the data.

Correlations were made to explore the relationship between anxiety and two paranoia dimensions within each clinical group. The results suggested that within the anxiety group, the anxiety measure correlated with the measure of hostility (VR questionnaire) but not with the measure of perceived threat (threat questionnaire). However, in the psychotic group, anxiety correlated with the threat questionnaire and not with the VR questionnaire. These results could be interpreted as an indication that the two clinical groups could be differentiated in terms of their beliefs about the characters. In this respect and from a qualitative point of view, the narratives developed by psychotic patients during the interviews were more elaborated and seemed more consonant with their delusional system. This may have been reflected in the threat questionnaire. The anxious group, with no clinical symptoms of delusional ideation may have reacted towards the filmed characters in a more global way as constructed in the VR questionnaire. Perhaps this distinction reflects a different style of dealing with social information and suggests that truly persecutory thoughts may target

specific individuals. This has been found in previous studies (Freeman and Garety, 2004a).

Although generally speaking, the paranoid measures utilised in this study suggested that the clinical participants were similar in the way they responded the filmed characters, there were some findings suggesting that both groups were not completely equal. In addition to this, a number of clinical aspects that were revealed during the interviews with the participants indicated that they were different. The qualitative difference between both clinical groups was also apparent when they were asked why certain character would look more threatening than the others, again, suggesting that there may be an underlying structure of beliefs guiding the narrative that the delusional participants reported (e.g. they were able to describe the personality of the filmed characters and give specific details about their lifes such as illicit drug consumption, history of violence etc as if they knew them).

The analysis indicated that the clinical groups showed significantly higher levels of sensitivity to neutral faces (revealed by the faces questionnaire) than the normal control group. At the same time, both were similar in the way they responded in relation to this stimulus. In a previous study, it has been shown that paranoid individuals seem to be less able to label the emotional states of human faces than a control group (Combs, Michael & Penn, 2006). In the present study, the psychotic participants were able to interpret the neutral faces of the study as worrying and expressing strong emotions such as anger or sadness. It is possible that ambiguous stimuli may be incorporated into the search for meaning in people with a heightened state of arousal (Freeman, Garety, Kuipers, Fowler & Bebbington, 2002). This would also help to understand why the anxious group also reported similar perceptions.

Clinically, the results of the present research suggest that the use of simulations could be used for assessment, treatment and evaluation purposes. In a previous

study, a computer simulated environment was succesfully used for social skills training in people with autistic spectrum disorders (Parsons & Mitchell, 2002). As in previous studies (e.g. Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman, Wittchen & Kendlyer, 1994), comorbidity was observed. This could indicate that psychological disorders share causal and maintaining processes (Harvey, et al 2006). The study found presence of trauma experiences in both clinical groups. The clinical implications may be that psychological treatments should be available to treat these problems. Some studies suggest that treatment equivalent to those used in PTSD might be useful (Rosenberg, Mueser, Friedman, Gorman, Robert, Drake, Vidaver, Torrey & Jankowski, 2001). In other studies it has been reported, that for some patients, making sense of their biography and their previously overwhelming and perplexing symptoms may have a considerable therapeutic effect (Fowler, 2000).

The study was biased in terms of selection of participants and limited in sample size. Future studies could include a more homogeneous sample of psychotic participants. For example, individuals in their first episode of psychosis.

Future research in this field could be the longitudinal study of key emotions that appeared to be shared across the clinical groups such as distrust, attribution of power, perception of threat and worry towards the filmed characters. This could be carried out exposing the individuals to different films over time, with the same characters. Such design would allow the distinguishing of anxious and paranoid participants with the effect of repeated exposure. A more ecologically valid study could be also implemented using real characters in a room to see if psychotic and non-psychotic people would differ under this condition.

The present study compared paranoid-like thinking between patients with psychosis and patients with anxiety disorders. A simulation of a social encounter was used to elicit paranoid-like thoughts. Patients with anxiety disorders showed similar levels of paranoid-like ideas when compared to patients with psychosis.

These findings support Freeman and Garety's cognitive model of paranoid thinking but are at variance with Bentall and colleagues'. The similarity in the cognitive processes identified and presence of comorbidity in both clinical groups supports the view that a transdiagnostic approach in research and therapy may be fruitful (Harvey, et al., 2006). Generally the study suggests that a psychological formulation of paranoid thoughts seems appropriate to understand delusions, showing that proneness to these predicaments may suggest that they are expressed on a continuum.

References

Beck, A.T., Epstein, N., Brown, G. & Steer, A.R. (1988). An inventory for measuring anxiety: Psychometric properties. Journal of Consulting and Clinical Psychology, 56, 6, 893-897.

Beck, A.T., Steer, R.A., & Brown, G.K. (1996). Manual for the Beck Depression Inventory-II. The Psychological Corporation, San Antonio.

Bentall, R.P., Corcoran, R., Howard, R., Blackwood, N. & Kinderman P. (2001). Persecutory delusions: A review and theoretical integration. Clinical Psychology Review, 21, 8, 1143-1192.

Bentall, R. P., Fernyhough, C., Morrison, A. P., Lewis, S., & Corcoran, R. (2007). Prospects for a cognitive-developmental account of psychotic experiences. British Journal of Clinical Psychology, 46, 2, 155-173.

Berenbaum, H., Valera, E.M., & Kerns. (2003). Psychological trauma and schizotypical symptoms. Schizophrenia Bulletin, 29, 143-152.

Combs, D.R., Michael, C.O., & Penn, D.L. (2006). Paranoia and emotion perception across the continuum. <u>British Journal of Clinical Ps ychology</u>, 45, 19-31.

Fowler, D. (2000). Psychological formulation of early episodes of psychosis. In: M. Birchwood, D. Fowler & C. Jackson (Eds). <u>Early interventions in psychosis</u>. London: Wiley, 112-137.

Freeman, D. (2007). Suspicious minds: The psychology of persecutory delusions. <u>Clinical Psychology Review</u>, 27, 425-457.

Freeman, D., & Garety, P. A. (1999). Worry, worry processes and dimensions of delusions: An exploratory investigation of a role for anxiety processes in the maintenance of delusional distress. <u>Behavioural and Cognitive Psychotherapy</u>, 27, 47-62.

Freeman, D., & Garety, P.A. (2003). Connecting neurosis and psychosis: the direct influence of emotion on delusions and hallucinations. <u>Behaviour, Research and Therapy</u>, 41, 923-947.

Freeman, D., & Garety, P. A. (2004a). <u>Paranoia: The Psychology of Persecutory Delusions</u>. Psychology Press, Hove.

Freeman, D., Garety, P.A., Bebbington, P., Slater, M., Kuipers, E., Fowler, D., Green, C., Jordan, J., Ray, K. & Dunn, G. (2005). The Psychology of Persecutory Ideation II. A Virtual Reality Experimental Study. <u>Journal of Nervous and Mental Disease</u>. 193, 5, 309-315.

Freeman, D., Garety, P.A., & Kuipers, E. (2001). Persecutory delusions: Developing the understanding of belief maintenance and emotional distress. <u>Psychological Medicine</u>, 31, 1293-1306.

Freeman, D., Garety, P.A., Kuipers, E., Fowler, D., & Bebbington, P. E. (2002). A cognitive model of persecutory delusions. <u>British Journal of Clinical psychology</u>, 41, 1293-1306.

Freeman, D., Slater, M., Bebbington, P.E., Garety, P.A., Kuipers, E., Fowler,D., Met, A., Read, C.M., Jordan, J., & Vinayagamoorthy, V. (2003). Can Virtual Reality be Used o Investigate Persecutory Ideation? <u>Journal of Nervous and Mental Disease</u>. 191, 8, 509-514.

Harvey, A., Watkins, E., Mansell W. & Shafran, R. (2006). <u>Cognitive behavioural processes across psychological disorders. A transdiagnostic approach to research and treatment</u>. Oxford University Press, New York.

Kessler, R.C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen H. U., & Kendler, K. S. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. <u>Archives of General Psychiatry</u>, 51, 8-19.

Kilcommons, A.M. & Morrison, A.P. (2005). Relationships between trauma and psychosis: an exploration of cognitive and dissociative factors. <u>Acta Psychiatrica Scandinavica</u>, 112, 352-359.

Malmberg, A., Lewis, G., David, A., & Allebeck, P. (1998). Premorbid adjustment and personality in people with schizophrenia. . <u>British Journal of Psychiatry</u>, 172, 308-313.

Matejkowski JC, Cullen SW, Solomon PL. (2008). Characteristics of persons with severe mental illness who have been incarcerated for murder. <u>J Am Acad Psychiatry Law</u>. 2008;36(1):74-86.

Morrison, A., Frame, L. & Larkin, W. (2003). Relationships between trauma and psychosis: a review and integration. <u>British Journal of Clinical Psychology</u>, 42, 331-353.

Mueser KT, Rosenberg SD, Xie H, Jankowski MK, Bolton EE, Lu W, Hamblen JL, Rosenberg HJ, McHugo GJ, & Wolfe R. (2008). A randomized controlled trial of cognitive-behavioral treatment for posttraumatic stress disorder in severe mental illness. <u>Journal of Consulting Clinical Psychology</u>, 76, 259-71.

Read, J., Van Os, J., Morrison, A.P. & Ross, C. A., (2005) Childhood trauma, psychosis and schizophrenia: a literature review with theoretical and clinical implications. <u>Acta psychiatrica Scandinavica</u>, 112, 330-350.

Rosenberg, S., Mueser, K., Friedman, M., Gorman, P.G., Robert, D., Drake, E., Vidaver, R.M., Torrey, W.C. & Jankowski, M.K. (2001). Developing effective treatments for posttraumatic disorders among people with severe mental illness. <u>Psychiatric Services</u>, 52, 1453-1461.

Appendix

Trust Questionnaire

In relation to character 1

During the simulation…	Never True	Rarely True	Sometimes True	Often True	Very Often True
If he tried to talk to me I would have felt comfortable responding	4 points	3 points	2 points	1 points	0 points
I thought that he could end up being my friend	4 points	3 points	2 points	1 points	0 points
I would not mind to let him know more about me	4 points	3 points	2 points	1 points	0 points
I felt that I would never trust that person	0 points	1 points	2 points	3 points	4 points
I felt curious to initiate a conversation with that person	4 points	3 points	2 points	1 points	0 points

Power Questionnaire

In relation to character 1

During the simulation…	Never True	Rarely True	Sometimes True	Often True	Very Often True
I felt small next to him	0 points	1 points	2 points	3 points	4 points
I thought he was cooler than me	0 points	1 points	2 points	3 points	4 points
I felt he was more attractive than me	0 points	1 points	2 points	3 points	4 points
I felt he was threatening	0 points	1 points	2 points	3 points	4 points
I thought he was more intelligent / wiser	0 points	1 points	2 points	3 points	4 points
I felt that I worth it compared him	4 points	3 points	2 points	1 points	0 points

Faces Questionnaire

In relation to character 1

During the simulation…	Never True	Rarely True	Sometimes True	Often True	Very Often True
His face expressed a clear emotion	0 points	1 points	2 points	3 points	4 points
His face was expressionless	4 points	3 points	2 points	1 points	0 points
He was sad	0 points	1 points	2 points	3 points	4 points
He was angry	0 points	1 points	2 points	3 points	4 points
His face expressed indifference	4 points	3 points	2 points	1 points	0 points

He was relaxed	4 points	3 points	2 points	1 points	0 points
He was happy	4 points	3 points	2 points	1 points	0 points
His face expression made me feel interested on him	4 points	3 points	2 points	1 points	0 points
His face expression made me feel indifferent	4 points	3 points	2 points	1 points	0 points
His face expression made me feel scared	0 points	1 points	2 points	3 points	4 points
His face expression made me feel worried	0 points	1 points	2 points	3 points	4 points

Details of Threat Questionnaire

This questionnaire has ten questions about the harm that you believe is going to happen or is happening.

3. Do you know who it is that is trying to harm you? Yes/Maybe/No

If you answer is yes or maybe, who do you think it might be?

4. How powerful is the person(s) trying to harm you? Please circle a number

0   1   2   3   4   5   6   7   8   9   10
No power   Extremely Powerful

3. What exactly is the type of harm that you expect to happen or that is happening (e.g. what is the threat physical or verbal or both?

4.When do you think the harm is most likely to happen? Please circle on of the time periods below
Long term   //////   Short Term

5.Where will the harm most likely occur? Please circle one of the options

Inside the house   /// Outside the house

6.How sure are you that the harm is happening? Please give a percentage estimate of the strength of your belief (0-100%)………………

7. How distressing is your belief that harm is going to happen or is occurring?
Please circle a number.
0   1   2   3   4   5   6   7   8   9   10
Not Distressing   Extremely Distressing
8. If the threat did happen, how awful would it be? Please circle a number
0   1   2   3   4   5   6   7   8   9   10
Not Awful   Extremely Awful
11. How well would you cope if the threat did occur? Please circle a number.
0   1   2   3   4   5   6   7   8   9   10
Could not cope at all   Would cope extremely well
12. Sometimes people who think harm is going to happen think that they may deserve this harm. Do you feel as if you deserve to be harmed in the way you have talked about? Please circle one of the options:
Yes/No/Maybe.

Threat Questionnaire Scoring System

If the person answers yes or maybe to the first question, score:

Question 1: yes 2 points, maybe, 1 point, No 0 points
Question 2: score 0 to 10 depending on the persons choice
Question 3: score 1 point (one threat e.g. physical) score 2 points (two threats e.g. physical and moral)
Question 4: 1 point for one time period, 2 points for two time periods
Question 5: 1 point for one option, 2 points for two options
Question 6: score 0 to 10 depending on the percentage (e.g. 60% = 6 points)
Question 7: score 0 to 10 depending on the persons choice
Question 8: score 0 to 10 depending on the persons choice
Question 9: score 0 to 10 depending on the persons choice 0 (could not cope at all is 10-could cope extremelly well is 0)
Question 10: score 2 points for yes, 1 point for maybe, 0 points for No.

VR Questionnaire

(Freeman, Garety, Bebbington, Slater,, Kuipers, Fowler, Green, Jordan, Ray, Dunn (2005)

Please indicate which statement describes better your opinion about the characters in the house by ticking in the appropriate box

	I do not agree	I agree a little	I agree moderately	I totally agree
1.Someone in the house was hostile towards me.				
2.Someone in the house would have harmed me in some way if they could.				
3.Someone in the house had it in for me.				
4.Someone in the house was trying to make me distressed.				
5.Someone in the house had bad intentions towards me.				
6.The people in the house were neutral towards me.				
7.The people in the house did not have any intentions towards me.				
8.The people in the house were unconcerned by my presence.				
9.I wasn't really noticed by the people in the house.				
10.The people in the house had no particular feelings about me.				
11.The people in the house were friendly towards me.				
12.The people in the house were pleasant people.				
13.The people in the house were trustworthy.				
14.The people in the house had kind intentions towards me.				
15.I felt very safe in their company.				