Service Attachment:

The Relative Contributions of Ward Climate Perceptions and Attachment Anxiety and Avoidance in Male Inpatients with Psychosis

Roslyn Campbell

Thesis submitted to

The University of Leicester

School of Psychology – Clinical Section

In partial fulfilment of the degree of

Doctorate in Clinical Psychology

Year of Submission: 2009

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

DECLARATION

This thesis in an original piece of work that has been submitted in partial fulfilment of the degree of Doctorate in Clinical Psychology. The literature review and research report contained within this thesis have not been submitted for any other degree, or to any other institution.

ACKNOWLEDGEMENTS

I would like to thank the participants who played a valuable role in this study. I would also like to thank my supervisors Dr. Steve Allan and Dr. Patrick Sims for their encouraging and containing support from start to finish.

Not forgetting my family, friends and fellow trainees who have been a great source of many welcomed distractions and support.

WORD COUNT

	Excluding references
Part One: Literature Review:	5761
Part Two: Research Report:	12996
Part Three: Critical Appraisal:	2933
Total excluding Appendices:	**21690**
Total including Appendices:	**23713**

CONTENTS

Part Two: Research Report **Page**

APPENDICES

List of Tables

List of Figures

THESIS ABSTRACTS

Roslyn Campbell

Part One: Literature Review

Title: The Influence of Ward Atmosphere on Male Inpatients with Psychosis

The purpose of this review was to examine the literature relating to the influence of ward atmosphere on inpatients with a diagnosis of psychosis. A systematic search strategy was used to identify the relevant literature. A methodological critique and data synthesis of all studies fulfilling the inclusion criteria was then conducted. Nineteen studies in total were critically evaluated. The results highlighted that the ward atmosphere can have a positive impact on patient outcomes such as psychotic symptomatology, mood, attitude, and more general functioning, when it is enhanced to better suit the needs of those with psychosis. Furthermore, many studies highlighted that an ideal ward atmosphere for individuals with a diagnosis of psychosis is calm and supportive and has low levels of "anger and staff control". However, many of these studies had their own limitations, such as small sample sizes and lack of longitudinal studies. More research is needed within this area, particularly with regards to more UK based longitudinal studies with larger sample sizes.

Part Two: Research Report

Title: Service Attachment: The Relative Contributions of Ward Climate Perceptions and Attachment Anxiety and Avoidance in Male Inpatients with Psychosis

Present literature suggests that the relationship between mental health services and their clients is becoming increasingly important, particularly since current thinking pertains to the idea that mental health care institutions can represent a positive attachment figure for inpatients. Service attachment relates to mental health services' ability to meet the attachment needs of patients through the provision of a "secure base", which the attachment literature suggests should be the prime function of mental health services. This "secure base" provision is an important consideration, particularly for forensic inpatients where there is a predominance of insecure attachment styles, fragmented attachment histories, and frequent episodes of distress related to their diagnosis of psychosis. The purpose of the current cross-sectional study was to assess whether inpatient perceptions of the ward climate, or their level of attachment anxiety and avoidance, had a greater contribution to their attachment to a service. Male inpatients with a diagnosis of psychosis (N = 76) residing in four regional Medium Secure Units completed questionnaire measures of service attachment, attachment style, and ward climate. Variables were analysed using Pearson product-moment correlations and hierarchical multiple regressions, controlling for negative affect. Results indicated that perceptions of the ward climate contributed more significantly than attachment anxiety and avoidance to service attachment. Furthermore, the element of the ward climate relating to positive therapeutic relationships between staff and patients was more contributory to service attachment over other aspects of the ward climate. The results also highlighted a strong influence of state negative affect on all the measures within the current study highlighting that negative affect should be considered as a main variable in future research rather than solely as a control. Clinical implications relating to the importance of considering the ward environment in inpatient settings and the role of staff supervision and training is discussed.

Part Three: Critical Appraisal

A reflection on the overall research project is provided. Issues relating to gaining access to and working with this population are discussed.

Total word count: 532

PART ONE:

LITERATURE REVIEW

The Influence of Ward Atmosphere on Male Inpatients with Psychosis:

A Review of the Literature

ABSTRACT

The purpose of this review was to examine the literature relating to the influence of ward atmosphere (WA) on inpatients with a diagnosis of psychosis. A systematic search strategy was used to identify the relevant literature. A methodological critique and data synthesis of all studies fulfilling the inclusion criteria was then conducted. Nineteen studies in total were critically evaluated. The results highlighted that the WA can have a positive impact on patient outcomes such as psychotic symptomatology, mood, attitude and more general functioning when it is enhanced to better suit the needs of those with psychosis. Furthermore, many studies highlighted an ideal WA specifically for individuals with a diagnosis of psychosis was calm and supportive and had low levels of "anger and staff control". However, many of these studies had their own limitations, such as small sample sizes and lack of longitudinal studies. More research is therefore needed within this area, particularly with regards to more UK based longitudinal studies with larger sample sizes.

Key words: WA, ward climate, ward environment, inpatients, schizophrenia, psychosis.

Word count: 165

1. INTRODUCTION

1.1 Historical and current context of ward atmosphere

The idea that there might be a relationship between the ward atmosphere (WA) and patient outcomes is not a new one in psychiatric research (Jansson & Eklund, 2002a). As early as the 1960s it was being recognised that the ward environment was having an impact on inpatients' wellbeing (Moos & Houts, 1967). As one researcher commented, "there is no patient untreated by his environment" (Stanton, 1964, p. vi).

The associated emergence of the "therapeutic community" (TC) in the mid 1940s, captured a more collaborative and deinstitutionalised approach to staff-patient interactions in comparison to standard hospitalised ward care, and highlighted a shift in thinking around inpatient care (Mills & Harrison, 2007). This led to a growth in research which still remains relevant, particularly since expenditure on inpatient care accounts for 65% of UK health authorities' overall mental health budget (Health Select Committee, 1998; cited in Quirk & Lelliot, 2001). Furthermore, with an ever increasing emphasis currently being placed on care in the community (Quirk & Lelliot, 2001), it is becoming apparent that "acute psychiatric wards are not achieving their full therapeutic potential" (Norton, 2004, p. 274).

The continually evolving context of inpatient[1] care also means that acute wards are now housing more "challenging" patients, which tend to be young males with a diagnosis of schizophrenia (Lelliot, 1996). The relationship between WA and individuals with psychosis therefore becomes ever more important, particularly given that patients suffering from

[1] The term "inpatient(s)" is used throughout this paper to maintain consistency with the literature

"disturbances more severe than neuroses were particularly sensitive to disturbances in the ward milieu" (Isohanni, 1980, p. 70). The main focus of this review therefore is to explore the current understanding of the influence of WA on inpatients with a diagnosis of psychosis.

1.2 Conceptualisation of ward atmosphere

The concept of WA was developed by Moos and Houts (1967) in the late 1960s, and is commonly referred to in the literature as "ward environment" (Bola & Mosher, 2003; Christenfeld, Wagner, Pastva & Acrish, 1989; Cohen & Khan, 1990; Jin, 1994; Oshima, Mino & Inomata, 2005) or "ward milieu" (Melle et al., 1996; Vaglum, Friis, & Karterud, 1985; Werbart, 1992). It is defined as "the final common pathway of certain treatment and setting characteristics, including the amount of individual support, and care, and the number of patients in the ward" (Melle et al., 1996, p. 722). Despite the initial interest in this concept, WA remained an intangible feature of psychiatric settings for many years (Wilmer, 1958). Measures have since sought to operationalise WA, including the Community-Orientated Programs Environment Scale (COPES; Moos, 1974) and the Ward Atmosphere Scale (WAS; Moos & Houts, 1967). Whilst the COPES attempts to assess the psychosocial community settings, the WAS, which is more commonly used, focuses more on hospital and inpatient settings (Moos, 1974). A fuller description of the WAS subscales are presented in Table 1.

Table 1

Description of the WAS Subscales (Jansson & Eklund, 2002a)

Subscale	Description
Relationship Dimension	
1. Involvement	How active patients are in their programme
2. Support	Support between patients and from staff to patients
3. Spontaneity	How much open expression of feelings is encouraged
Personal Growth Dimension	
4. Autonomy	How independent patients are in decision making
5. Practical orientation	Practical skills and preparation for release
6. Personal Problem Orientation	Extent to which patients seek to understand problems
7. Anger and Aggression	Extent of patients arguing/displaying their anger
System Maintenance Dimension	
8. Order and Organisation	How important order and organisation are
9. Programme Clarity	Explicitness of rules and procedures
10. Staff Control	Extent to which measures of control are used

1.3 Ward atmosphere and psychosis

Previous research has shown that the psychosocial environment may have a negative influence on the course of schizophrenia, particularly on acute wards (Concoran et al., 2003; Goodwin, Holmes, Cochrane, & Mason, 2003), where patients experience many relationships (Forster et al., 2003), there is a high staff turnover (Goodwin et al., 2003), and staff work many different shifts (Ma, 2007). Conversely, a supportive ward environment is considered by many as a precondition for successful treatment (Schalast, Redies, Collins, Stacey & Howells, 2008) and research has highlighted that situational stressors that exacerbate

symptoms of schizophrenia can be lessened through a supportive environment (Lenroot, Bustillo, Lauriello & Keith, 2003). This is an important idea given that the emphasis within an inpatient facility must be on "having the right environmental factors in place for the particular patient group" (Collins & Munroe, 2004, p. 141).

Some studies have explored the effects of WA on inpatients, however many studies have used mixed diagnostic groups (Brunt & Rask, 2007; Brunt, 2008; Burti, Andreone & Mazzi, 2004; Carlin, Gudjonsson & Yates, 2005; Rossberg, Melle, Opjordsmoen & Friis, 2008; Schalast et al., 2008), which limits the generalisability of findings to any particular patient group. This emphasises the importance of conducting a review that focuses solely on patients with psychosis. Notably, only one systematic review has been conducted to explore the effects of the WA on inpatients with psychosis (Smith, 2000), however this also used mixed diagnostic groups and was conducted over 10 years ago.

Given the range of literature surrounding this topic, the review has arranged the material into four categories, namely, inpatient perceptions of WA, staff perceptions of WA, patient outcomes and WA, and the effects of enhancing a WA to suit inpatients with a diagnosis of psychosis.

1.4 Perceptions of ward atmosphere and psychosis

It is commonly felt that the effect of the environment on patient outcomes is mediated through the patient's perceptions of the WA (Friis, 1986a). Studies exploring this have uncovered differences between inpatient and outpatient perceptions (Langdon, Cosgrave & Tranah, 2004), staff and patient perceptions (Brunt & Rask, 2005), treatment outcomes

(Johansson & Eklund, 2004), patient satisfaction with services (Rossberg et al., 2006), levels of social support (Jansson & Eklund, 2002a), and quality of the environment (Oshima et al., 2005). However, very little is known about how inpatients with psychosis, as a stand alone diagnostic group, actually perceive and experience their environment (Middelboe, Schjodt, Byrsting & Gjerris, 2001). This review aims to explore these issues.

1.5 Ward atmosphere and patient outcomes

Assessing patient outcomes in those with psychosis is an important line of enquiry, because for many years, antipsychotic medications have been the first-line treatment for individuals with newly diagnosed psychosis (Department of Health, 2002). However, not all patients with schizophrenia benefit from medical treatment (Lerner, Bergman, Borokhov, Loewenthal & Miodownik, 2005), and there are major issues with medication relating to non-compliance and treatment resistance (Bola & Mosher, 2003). It is therefore important to review the evidence pertaining to ward climate given the potential for this construct to be an influencing factor in inpatient care and outcomes.

1.6 Optimal ward atmospheres for those with psychosis

It is commonly recognised that there is no one ward milieu suitable for all psychiatric patients (Johansson & Eklund, 2004). In his early study, Friis (1986a) identified that psychotic and non-psychotic inpatients require different ward environments. Similarly, Uhlmann and Stenert (2008) concluded from their study that patients with PD (personality disorder) benefit from a specialised ward environment. In exploring the differences between patient groups, Friis (1986a) outlined that detrimental environmental factors for those with psychosis include

an increased number of patients on the ward, and an increased emphasis on interaction (Friis, 1986b). Conversely, the important elements of an acute in-patient setting for inpatients with PD include effective use of in-patient groups (Fagin, 2004), and a highly structured environment with clear, consistent and stable rules. This is important since inconsistency is highly stressful for those with PD (Bowers, 2002). The optimal environment for those with PDs appears dissimilar to the collaborative and deinstitutionalised nature of the therapeutic community (TC) ward milieu (Mills & Harrison, 2007), which is seen to be optimal for those with psychosis (Hansen & Slevin, 1996; Werbart, 1992). Patients with PD have even been known to abuse the freedoms that they are granted within TCs (Feldbrugge, 1992). These findings therefore highlight the need to exclusively address the effect of the WA on inpatients based on their diagnosis of psychosis.

1.7 Summary

In summary, the WA is a very important and influential concept, the effect of which can be investigated through patient perceptions, staff perceptions, and treatment outcomes through a variety of modalities. Despite the array of literature available, there is still very little research which specifically focuses on these concepts in relation to inpatients with psychosis. A systematic search of the literature was therefore undertaken to evaluate the current research relating to the influence of the WA on patients with a diagnosis of psychosis.

2. AIMS

The present paper aimed to use a systematic search methodology to review articles relating to the influence of the WA on patients with a diagnosis of psychosis in order to:

- Evaluate the literature surrounding WA in relation to patients with a diagnosis of psychosis
- Present an overview of the research findings and limitations in this area
- Identify further research needs in this area

3. METHOD

3.1 Search strategy and search terms

Several electronic databases were searched in order to identify relevant papers for inclusion within this literature review. This review focused on papers from 1960 when the construct of "ward atmosphere" was developed (Moos & Houts, 1967). The Cochrane Library and the National Research Register were also searched for studies and a search of grey literature through the use of OpenSIGLE was also conducted to reduce publication bias in this review. Further examination of the reference lists of key papers was also examined which identified two further papers.

Key words searched were "ward atmosphere", "ward climate", "ward environment", "schizophrenia" and "psychosis". Only English documents were retrieved. A brief summary of the search terms used, the databases searched and the number of studies recovered can be found in Table 2. A more comprehensive breakdown of these searches can be found in Appendix A.

Table 2

Search terms, databases searched, years searched, and number of studies found

Search terms	Database	Years	Number of studies found
Ward atmosphere, ward climate, ward environment, schizophrenia, psychosis	SCOPUS	1960 - January 2009	241
	PsycInfo	1960 - January 2009	35
	ISI Web of Science	1960 - January 2009	68
	Medline	1960 - January 2009	155
	OpenSIGLE	1960 - January 2009	0

3.2 Inclusion and exclusion criteria

The search produced 499 papers, of which 259 were duplicates. The remaining 240 abstracts were then examined using the following inclusion criteria:

- Population – patients with a diagnosis of psychosis
- Study Aim – to examine the WA
- Study Designs – it was not expected that there would be many RCTs in this area; therefore non-randomised and non-controlled studies were included in this review

3.3 Paper retrieval and final selection

The process of selecting papers for inclusion in this review is presented in diagrammatic form in Appendix B. Of the 240 abstracts retrieved, 203 were excluded for not meeting the inclusion criteria. The remaining 37 papers were retrieved in full. Twenty-one were excluded because on further analysis contained samples of patients with other diagnoses other than psychosis. The remaining 16 studies were included in this paper for review. An analysis of the key paper references, as well as a search of the key authors uncovered an additional three papers bringing the total number of papers included in this review to 19.

3.4 Data extraction and synthesis

Due to the heterogeneity of the studies, in relation to the current study measures used and samples explored, effect sizes were not investigated. To improve the quality of the data extraction and synthesis, a validity framework for detecting potential bias, based on a model by Campbell and Chambers (Cook & Campbell, 1979) which assessed construct validity, external validity, internal validity and statistical conclusion validity (Cooper & Hedges, 1994) was adopted. This framework is shown in Appendix C and the results are shown in Appendix D.

4. RESULTS

4.1 Overview

The review process highlighted articles relating to the influence of WA on individuals with psychosis. In total, nineteen studies were identified that met the review criteria. The main findings from each of the studies are presented in Table 3.

Table 3

Summary of reviewed articles

Study no.	Study reference	Sample	Setting	Research Methodology	Measures	Outcomes
1	Kellam, Goldberg, Scholer, Berman & Shmelzer (1967)	Over 340 newly admitted patients randomly assigned to one of four drug treatments. Aim was to assess the impact of WA on drug treatment.	Nine institutions in USA (27 admission wards)	Randomly assigned. Double blind conditions. ANOVA used.	Clinical status of patients evaluated prior to treatment and 6 weeks after treatment using; clinical assessment and The Inpatient Multidimensional Psychiatric Rating Scale (IMPS; Lorr et al., 1963, cited in Kellam et al., 1967)	Good treatment outcome on wards with low disturbed behaviour, low aggressive behaviour, low aloneness, high cluster-size, and high staff-patient contact.
2	Vaglum et al. (1985)	Patients with a diagnosis of psychosis and staff	General hospital psychiatric ward after changes	Cross-sectional. Pre- and post-ward changes.	WA Scale (WAS; Moos & Houts, 1967); Good Milieu Index (GMI; Friis, 1984, cited in Vaglum et al., 1985); staff questionnaire; staff semi-structured interview; diaries; and non-participant observation	Patients perceived the ward unfavourably, reporting high levels of anger and aggression and low levels of order and organisation. Staff highlighted high levels of staff conflicts. One year later after changes on the variables important for psychotic patients (setting, treatment human interaction, perceived milieu & treatment outcome) results highlighted patients perception of the ward was more favourable.
3	Friis (1986a)	Patients with psychosis and patients not diagnosed as psychotic	35 short-term wards	Cross-sectional	WAS (Moos & Houts, 1967); GMI (Friis, 1984, cited in Friis, 1986a)	Patients with psychosis appeared to benefit from settings with a high level of Support, Practical Orientation, and Order and Organisation, and low levels of Anger and Aggression.
4	Christenfeld et al. (1989)	Long-term chronically psychotic patients. 37 interviewed on Model ward (quieter, calmer & better organised) & 44 from control ward. Staff; pre-test Model ward staff (n=27), control staff (n=31) & post-test Model ward staff (n=23), control staff (n=44)	New York State's Harlem Valley Psychiatric Centre	Pre- and post-test ward changes. Controlled design.	Staff completed the WAS; Moos & Houts, 1967) and Lubin's Depression Adjective Checklist (Lubin, 1967, cited in Christenfeld et al., 1989) pre- and post-test. Patients were asked to participate at pre-test in structured interview consisting of a scale of satisfaction; National Institute of Mental Health's CES-D scale (Radloff, 1977, cited in Christenfeld et al., 1989)	Staff mood improved after 4-8 months of the Model Ward. Even in chronically psychotic, there is a positive reaction to the enhancement of the ward environment. Tendency for staff and patients to report improvements for themselves, but not for staff to report improvements in the patients. Model Ward Program makes measureable differences in patients with psychosis.

Study no.	Study reference	Sample	Setting	Research Methodology	Measures	Outcomes
6	Werbart (1992)	Patients with a diagnosis of psychosis and staff in three Swedish Therapeutic Communities	Three Swedish Therapeutic Communities	Cross-sectional.	Community Orientated Programs Environment Scale (COPES; Moos, 1974). Patient and staff completed	The study showed differences in the wards with regards to balance between the explorative and supportive factors, and differences between staff and patient perceptions. Concluded that a beneficial psychotherapeutic environment requires consistency in the treatment model that is well mirrored in the patient's perceptions.
7	Jin (1994)	Female schizophrenic inpatients (n=50). Half the sample was allocated to the experimental group and were given freedom to leave the locked ward at will. The control group (n=25) remained on the same ward as the experimental group but were not permitted to leave	Psychiatric hospital in China	Prospective, controlled, single-blind study	Pre- and post measure using the Chinese version of the Structured Assessment of Negative Symptoms (SANS; Xia, 1990, cited in Jin, 1994) & the Brief Psychiatric Rating Scale (BPRS; Zhang, 1984, cited in Jin, 1994)	There was no significant difference between the two groups at enrolment. The experimental group showed improvement over the six-month interval (which was significant for all type of symptom except depression-anxiety) and had significantly less severe symptoms than the control group at the end of the intervention. The differences in the groups were not due to differences in dosage of medication.
8	Fan, Huang, Wu, & Jiang (1994)	Male inpatients who met the ICD-9 criteria for schizophrenia (n=90). Half allocated to experimental group and half to control group	Open-door rehabilitation ward (as similar as possible to home environment)	Controlled trial, not randomised	The Nurses Observation Scale for Inpatients Evaluation (NOSIE; Zhang, 1990, cited in Fan et al., 1994)	Over one year, the experimental group showed significant improvements in overall functioning compared to the control group.
9	Mosher, Vallone, & Menn (1995)	Experimental (n=45). Control (n=55)	Two control settings (short-term hospitalisation) versus two experimental conditions (Soteria Project, home-like social environment)	Controlled trial	WAS (Moos & Houts, 1967) & COPES (Moos, 1974)	Despite the environments in the control and experimental conditions being different from each other, psychopathology in both groups had improved significantly. It concluded that specially designed environments were able to reduce acute psychotic symptomatology within six weeks as effectively as usual hospital treatment including neuroleptic drug use. In addition, high levels of perceived involvement, support, spontaneity, and autonomy, and low levels of practicality and staff control seem to address the therapeutic needs of acutely psychotic patients.
10	Hansen & Slevin (1996)	Patients with a diagnosis of psychosis. 1st WAS (n=29), 2nd WAS (n=18), 3rd WAS (n=18)	New York State's Harlem Valley Psychiatric Centre	Comparing groups at three different time intervals	WAS (Moos & Houts, 1967)	Results highlighted that the Program change unit was significantly higher in the area of Involvement, Support, and Practical Orientation after three administrations of the WAS, 2 months after the programme change. Involvement and Support Scales showed significant positive changes highlighting that patients felt significantly more involved in treatment and perceived staff as more supportive as a result.

Study no.	Study reference	Sample	Setting	Research Methodology	Measures	Outcomes
11	Melle et al. (1996)	Patients with DSM-III-R diagnosis of schizophrenia or schizophrenoform disorder (n=73)	General hospital psychiatric ward	Pre- and post-re-organisation of ward to more suitable milieu for patients with schizophrenia	Psychiatrists reviewed patients' medical charts. Information about patients' demographic characteristics, family history, social functioning, previous psychiatric functioning etc. was evaluated. Health Sickness Rating Scale (HSRS; Luborsky & Bacharac, 1974, cited in Melle et al., 1996)	Those patients with schizophrenia treated on the short-term unit had the same level of functioning at discharge as those treated on the same ward before it was organised to achieve a more suitable milieu for schizophrenic patients. A ward with a high level of staff support, higher levels of structure and lower levels of aggression were associated with shorter lengths of stay.
12	Jansson & Eklund (2002a)	Patients with psychosis treated in a psychiatric rehabilitation unit (n=51)	Psychiatric Rehabilitation unit	Cross-sectional. Questionnaires at 5 time intervals once every six months for two years	COPES (Moos, 1974)	Few differences in perceptions of WA between those with psychoses and other psychoses. Psychoses group scored lower on Autonomy and Support and explanation was they may perceive this as controlling instead. No sex differences in perceptions. Staff mainly rated higher than patients, especially on Anger and Aggression. In summary, WA stable over time and gender.
13	Jansson & Eklund (2002b)	Patients with psychosis treated in a psychiatric rehabilitation unit (n = 51)	Psychiatric Rehabilitation Unit	Cross-sectional	COPES (Moos, 1974)	Individual factors such as self-control, paranoid symptoms and social competence may be important for how the WA is perceived.
14	Rossberg & Friis (2003a)	Staff on 52 wards and patients on 54 wards for psychotic patients (n=822 staff & n=550 inpatients)	54 wards for psychotic patients in	Cross-sectional	WAS (Moos & Houts, 1967)	Main finding was that perceptions of attitudes and behaviour do not seem to measure a common dimension neither concerning Spontaneity or Anger and Aggression. Concludes that behaviour and attitudes should be rated separately and that the revised subscales seem more clinically relevant, especially in wards for patients with psychosis.

Study no.	Study reference	Sample	Setting	Research Methodology	Measures	Outcomes
15	Rossberg & Friis (2003b)	Staff on 52 wards and patients on 54 wards for psychotic patients (*n*=822 staff & *n*=550 inpatients)	54 wards for psychotic patients	Cross-sectional	WAS (Moos & Houts, 1967)	Suggested revision of the WAS. Replicated the findings that inpatients with psychosis prefer a high level of Support, Practical Orientation, and Order and Organisation shown in a study conducted by Friis in 1986. In addition, the study highlighted that inpatients prefer a high level of Involvement and to some extent, a low level of Staff Control.
16	Bola & Mosher (2003)	Newly diagnosed DSM-III schizophrenic patients were assigned consecutively (1971 to 1976, *n*=79) or randomly (1976 to 1979, *n*=100) to the hospital or the Soteria project and followed for 2 years	Psychiatric hospital wards	Quasiexperimental research design comparing multiple outcomes at 2 years	Eight outcome measures used including the Brief Follow-up Rating (BFR, Sokis, 1970, cited in Bola & Mosher, 2003). Re-admission to 24-hour care (yes/no); no. of re-admissions; days in remission	Beneficial effects of the Soteria project were still found at the 2-year follow-up. Soteria based patients also had lower psychopathology scores and fewer readmissions compared to the hospital-treated subjects.
17	Rossberg & Friis (2004)	Staff and patients on 42 wards for psychotic patients (*n*=640 staff & *n*=424 inpatients)	36 Short-term wards and 6 intermediate and long-term wards for patients with psychosis in Norway	Cross-sectional	WAS (Moos & Houts, 1967) and the Working Environment Scale (WES-10: Rossberh, Eiring, & Friis, cited in Rossberg & Friis, 2004)	Staff members scored higher on nine of the 11 WAS subscales compared to patients. Staff and patient WAS scores were moderately correlated. WA seems to be more important for patient satisfaction than for staff satisfaction.
18	Oshima, Mino & Inomata (2005)	Inpatients recruited from 20 psychiatric hospitals across Japan (*n*=549 through randomisation) that had been hospitalised for at least one year. 59% male	20 psychiatric hospitals	Cross-sectional	A variety of measures including the Ward Behaviour Rating Scale (WBRS; Wing, 1961, cited in Oshima et al., 2005)	The four negative symptom scales had significant correlations with most of the indices of understimulting environment. The study confirms the influence of understimulating social environments on negative symptoms.
19	Rossberg, Melle, Opjordsmoen & Friis (2006)	Patients (roughly 70% on admission) on an acute psychiatric ward (*n*=129) over 11 time points, once a year	Acute psychiatric wards	11 time points	WAS (Moos & Houts, 1967)	Changes in patient satisfaction scores strongly co-varied with the WA as perceived by the patients. The four sub-scales, Involvement, Practical Orientation, Angry and aggressive behaviour, and Staff control proved to be the most strongly related to patient satisfaction.

The papers retrieved fell into one of four main categories; namely, patient perceptions of WA, staff and patient perceptions of WA, patient outcomes, and the effects of therapeutically enhancing the ward environment to better suit patients with psychosis. The results of this categorisation are presented in Table 4 and these categories are used to structure the rest of the review.

Table 4

Papers categorised by aims of the study

Patient perceptions	Staff and patient perceptions	Patient outcomes	Ward environment changes
Friis (1986a)	Werbart (1992)	Kellam et al. (1967)	Vaglum et al. (1985)
Melle et al. (1996)	Jansson & Eklund (2002a)	Cohen & Khan (1990)	Christenfeld et al. (1989)
Hansen & Slevin (1996)	Rossberg & Friis (2003a)	Jin (1994)	Fan (1994)
Jansson & Eklund (2002b)	Rossberg & Friis (2003b)	Oshima et al. (2005)	Mosher et al. (1995)
Rossberg et al. (2006)	Rossberg & Friis (2004)		Bola & Mosher (2003)

4.2 Studies reporting patient perceptions of ward atmosphere

Consideration of individual values, particularly those of inpatients, has become increasingly important (Petrova, Dale & Fulford, 2006), especially in the UK given the focus on a "patient-led NHS" (Department of Health, 2005a; Department of Health, 2005b). This is particularly topical for patients with psychosis given that it is known they experience less

satisfaction with the care they receive (Rossberg et al., 2006), and are more sensitive to disturbances in the ward milieu (Isohanni, 1980).

Five studies were retrieved that focused on inpatient perceptions of the WA. Friis' (1986a) study was regarded as the first to explore the views of inpatients with psychosis in an attempt to gain an understanding of the factors constituting an optimal WA for this patient group. By administering the WAS across thirty-five short-term units in Norway, the study highlighted that psychotic patients preferred a WA that had high levels of Support, Practical Orientation, and Order and Organisation, and low levels of Anger and Aggression (Friis, 1986a; refer to Table 1 for a fuller description of these labels). Despite some limitations relating to the age of the study and generalisability to healthcare settings in other countries, this study remains the cornerstone for providing recommendations of an optimal WA for inpatients with psychosis.

Jansson and Eklund's (2002b) cross-sectional study aimed to assess how inpatients' WA perceptions were related to their cognitive ability, self-image, self-related symptoms, and social functioning. This was explored via the administration of the COPES (Moos, 1974), alongside other measures of cognitive ability and social functioning on a psychiatric rehabilitation unit in Sweden. The study highlighted that individual factors, such as self-control and social competence, should be acknowledged when monitoring the WA to best fit this patient group. However, since the research was based in a Swedish hospital, this makes it difficult to generalise the findings to UK settings, given the differences in healthcare provision. Given the small sample size (N = 37) it is likely that the study was also underpowered as a result. The large number of statistical analyses carried out on the results of this study may also have led to the occurrence of Type-I errors. In addition, this study (Jansson & Eklund, 2002b) along with another study by the same authors (Jansson & Eklund,

2002a) clearly stated that they were examining patients with psychosis. However, on further examination, it was discovered they included only a percentage of patients with this diagnosis (Jansson & Eklund 2002a; 47% of inpatients had a diagnosis of schizophrenia; Jansson & Eklund, 2002b; 32% of inpatients had a diagnosis of schizophrenia).

Hansen and Slevin (1996) also explored patient perceptions of WA after applying therapeutic community (TC) principles (which emphasises empowering the patient) to an acute care psychiatric treatment programme in the USA. Through administering the WAS, the study collected the views of inpatients at three time intervals (prior to programme changes, one month later, then two months later). Two months after the programme change, patients gave higher scores on the Involvement and Support subscales of the WAS, indicating that they felt significantly more involved in treatment, and perceived staff as more supportive. Although this study demonstrated significant positive changes in the sample, it is important to note that the questionnaires were administered by mental health workers on each unit, and in a group format, which are two factors not conducive to honest disclosure. The evaluation time points were also soon after the unit had opened, so the "honeymoon" effects of the new unit may not have given a true representation of reality. Allowing more time to lapse before assessing perceptions may have overcome this difficulty.

Over a two year period, Melle et al. (1996) explored patient perceptions of WA, as well as patient outcomes (based on length of stay and level of functioning at discharge), before and after the reorganisation of a short-term psychiatric ward in Norway. The results highlighted that patients treated after this reorganisation had significantly more positive ratings of the WA after, compared to those evaluated before. Both groups demonstrated the same level of functioning at discharge; however those treated after the reorganisation had significantly

shorter stays on the unit. This highlights that patients' perceptions of the WA may have an influence on the rate of improvement. However, using "level of functioning at discharge" and "length of stay" as outcome measures may be problematic given the range of other factors that may contribute to these results.

Rossberg et al. (2006) conducted a longitudinal study over 20 years and aimed to assess the extent that different subscales of the WAS were related to patient satisfaction on an acute psychiatric ward in Norway. This study found that changes in patient satisfaction scores strongly co-varied with WA perceptions. They found that four of the subscales of the WAS (Involvement, Practical Orientation, Anger and Aggression, and Staff Control), were strongly related to patient satisfaction. These findings highlight that measures of the WA can be important measures of the quality of inpatient care (Rossberg et al., 2006). However, generalisability is limited as only one ward with a small sample size was explored. In addition, the ward perceptions were assessed only once a year and so were not representative of the WA throughout the rest of the year.

4.2.1 Summary

Despite the search uncovering only five studies relating to patient perceptions of the WA, the studies have highlighted the importance of ascertaining the views of this patient group (Melle et al., 1996).The studies have indicated that individual factors do influence perceptions of WA (Jansson and Eklund, 2002b), and a measures of WA can be a good indicator of patient satisfaction (Rossberg et al., 2006). The studies have also suggested that the optimal environment for those with psychosis is one which has high levels of Support, Practical Orientation, and Order and Organisation, and low levels of Anger and Aggression (Friis,

1986a; Jansson & Eklund, 2002b), as well as high levels of Involvement and low levels of Staff Control (Rossberg et al., 2006; refer to Table 1 for a fuller description of these labels).

4.3 Studies reporting staff and patient perceptions of WA

It is known that staff and patients may experience the WA differently (Rossberg & Friis, 2004), and so it is important to explore and compare both perspectives. Jansson and Eklund's (2002a) longitudinal study aimed to assess differences between staff and patient perceptions on a psychiatric rehabilitation unit in Sweden. By administering the COPES (Moos, 1974) over two years, they discovered significant differences between staff and patient perceptions over time, with staff reporting higher on the subscale measuring anger and aggression compared to inpatients.

These findings were supported by Rossberg and Friis (2004) who also examined both staff and patients' perceptions of the WA. They assessed 42 wards for psychotic patients in Norway by administering the WAS to staff and patients. They concluded that staff perceived significantly more Anger and Aggression than patients. However, the validity of these findings for those with psychosis is unclear. Despite stating the research was conducted "on wards for psychotic patients" (Rossberg & Friis, 2004, p. 799), the study went on to comment that the ward was only included in the study if more than two thirds of the patients had diagnoses within the psychotic range.

Werbart (1992) compared staff and patient perceptions on three Swedish wards. These wards were based on therapeutic community (TC) principles so included aspects such as a home-like milieu, structure and shared duties by staff and patients. Using the COPES (Moos, 1974),

the results highlighted differences between staff and patient perceptions suggesting "that a gap exists between the patients' and the staff's emotional reality in the treatment setting" (Werbart, 1992, p. 18). However, both staff and patients shared a common view that the milieu should be "well structured, lucid and predictable" (Werbart, 1992, p.21). The small number of patients on each unit (n = 6, 7, and 9) however, limits the generalisability of the findings and threatens the reliability of the study by restricting the variability in patient scores.

Other studies which have explored staff and patient perceptions are those by Rossberg and Friis (2003a; 2003b). These Norwegian studies focused on revising the WAS (Rossberg & Friis, 2003a; 2003b) given the changes to hospital settings over the past few decades. These two studies had similar limitations to those in Rossberg and Friis' study (2004) but broadly replicated the findings of previous studies (Friis, 1986a; Jansson & Eklund, 2002a, 2002b; Rossberg & Melle, 2004).

4.3.1 Summary

Many of these research papers focused on the staff-patient relationships. This can be a difficult topic to explore given the number of relationships a patient in a dynamic ward environment will experience. However, research using the WAS has highlighted that staff and patient perceptions do differ (Werbert, 1992), with staff perceiving more anger and aggression than patients, and patients perceiving higher levels of staff control (Jansson and Eklund, 2002a). However, despite these differences, many of the studies report findings that are consistent with the recommendations for an optimal WA for inpatients with psychosis as highlighted by Friis (1986a).

4.4 Studies reporting the effects of ward environment on inpatient outcomes

One branch of WA research has focused on treatment outcomes, which have been assessed in terms of responses to medication (Kellam et al., 1967), symptomatology (Oshima et al., 2005), and scores on various outcome measures such as the Brief Psychiatric Rating Scale (BPRS; Cohen & Khan, 1990; Jin, 1994).

Cohen and Khan (1990) studied the effects of two different ward environments for patients diagnosed with schizophrenia in the USA by evaluating patient scores on the BPRS. The first environment, a psychiatric intensive care unit (PICU), had an "intensive milieu" which focused on minimal stimulation and no group activity. The other environment, which was an open ward, had an emphasis on group and family therapy and facilitated patients leaving the ward. Results highlighted that patients treated on the PICU showed greater improvement on BPRS ratings during the first days of hospitalisation compared to those on the open ward. However, the rapid improvements highlighted in this study may be a poor indicator of the effectiveness of the milieu, especially if these results are not supported further down the treatment pathway. In addition, it is unclear if these findings could solely be attributable to the influence of the ward environment, especially given that the process of becoming an inpatient may be a containing enough experience for someone in great psychological distress. This process of containment in itself may be enough to show improvements on the BPRS. Also, the effect of medication was downplayed in this study and there was no mention of the level of psychiatric disturbance in the inpatients which may have been another confounding variable.

The efficacy of a less structured and stimulating environment for patients with psychosis was further supported by a previous study carried out by Kellam et al. (1967) which tested the relationship between the dimensions of the WAS and treatment outcome across twenty-seven wards in nine institutions in the US. The study highlighted good treatment outcomes in the patients who were on wards with low disturbed behaviour, low aggressive behaviour, low aloneness, and high staff-patient contact. These are relevant findings; however, it is unclear if other uncontrolled variables, such as medication effects, may have influenced the results.

Conversely, Oshima et al. (2005) examined the extent to which an under stimulating social environment in various Japanese hospitals contributed to negative symptoms in individuals with psychosis, whilst controlling for positive symptoms, medication, and background variables. Results from hierarchical multiple regression confirmed the negative influence of under stimulating environmental factors on negative symptoms. However, it was not possible to establish a causal direction between negative symptoms and a negative environment, highlighting that inpatients' negative symptoms may be a causal factor in creating a negative environment rather than a negative environment influencing negative symptoms. Further limitations relate to the generalisation of the findings to other inpatient settings, which would be difficult given the differences in service provision between the twenty institutions involved in the study.

Jin (1994) randomly assigned fifty female inpatients with a diagnosis of schizophrenia to either an experimental group or a control group in two psychiatric hospitals in China. Raters then assessed patient outcomes using the BPRS. The experimental group were given as much autonomy as possible, being allowed to leave the ward at will, and were encouraged to take part in collective activities. The control group on the other hand could not leave the ward or

participate in activities. Results highlighted that the experimental group showed improvement over the six-month interval and had significantly less severe symptoms than the control group at the end of the intervention. However, both groups were located on the same ward so blinding the raters to the condition may have been difficult. In addition, the experimental group were not only given autonomy from the ward, they were given the opportunity to partake in activities. It is therefore difficult to conclude which variable accounted for the improvement in the experimental group over 6 months.

4.4.1 Summary

The findings of these studies varied but it was possible to postulate that patients with psychosis may benefit from a more structured environment when first admitted to a ward (Cohen and Khan, 1990). However, as their stay progresses, given the improvements on the BPRS after 6 months in the more open environment (Jin, 1994), patients with psychosis may benefit from a less structured and more stimulating environment (Oshima et al., 2005), with high patient contact and low aggressive behaviour (Kellam et al., 1967).

4.5 Studies exploring the effects of an enhanced ward environment

The search uncovered six papers that explored the effects of modifying the ward environment to better suit patients with psychosis. In Christenfeld et al.'s (1989) study, an "enhanced" Model ward, which was "quieter, calmer and better organised for therapeutic activities" (Christenfeld et al., 1989, p. 261), was compared with a control ward over a period of 8 months. The study concluded that the Model ward made a measurable difference in patients with psychosis in relation to their mood, attitude and functioning, and also improved staff

mood. Even in the chronically psychotic, there was a positive reaction to the enhancement of the ward environment.

In a Norwegian study, Vaglum et al. (1985) evaluated patient perceptions of the WA using the WAS after a ward had been modified to better suit inpatients with psychosis, e.g. therapy groups were reduced in duration and more structure was put in place. One year on from the changes, it was reported that the ward milieu was perceived as considerably more favourable by the patients. However, it was impossible to conclude which aspects of the intervention were responsible for these effects.

Some studies have assessed the impact of WA by comparing existing wards. Fan et al. (1994) assigned male inpatients with psychosis to an experimental group or a control group in a psychiatric hospital in China to assess the effectiveness of an open-door rehabilitation ward. The experimental group were given as much freedom as possible on the rehabilitation ward, where they had access to occupational therapy, recreational therapy and behavioural therapy, whereas the control group received only standard inpatient treatment on a locked ward. Over one year, the experimental group showed significant improvements in overall functioning, as assessed by the Nurses Observation Scale for Inpatient Evaluation (NOSIE). However, due to the number of other confounding variables in the experimental group (i.e. having access to various therapies, recreational activities etc.), it was difficult to conclude whether it was access to these services or the open-ward treatment that contributed to the positive results in the experimental group. In addition, the results may be subject to bias because the observer was aware of which condition the subject was assigned to.

Mosher et al. (1995) studied the effects of two different environments on hospital wards in the USA; one was based on short-term hospitalisation with medication, and one was based on the Soteria Project. The Soteria Project is a specially designed intensive psychosocial treatment which has a strong relational focus with minimal use of medication. They concluded that the environment of the Soteria Project was able to reduce acute psychotic symptomatology within six weeks as effectively as usual hospital treatment which included neuroleptic drug use. A study by Bola & Mosher (2003) also explored the Soteria Project. This confirmed these beneficial effects of the project at a 2-year follow-up. However, these results have to be interpreted with caution as an attrition rate of 28% questions the representativeness of the sample, particularly since many drop-outs were from the hospital based sample.

4.5.1 Summary

It has been highlighted that assessing changes in the WA is valuable in acknowledging the impact these enhancements can have on inpatients, both in terms of their perceptions and on other outcomes such as mood and functioning.

5. DISCUSSION

5.1 Summary of findings

This literature review highlighted that a therapeutic WA can have a positive impact on inpatients with psychosis, particularly when it is enhanced to better suit this patient group (Bola & Mosher, 2003; Fan et al., 1994; Hansen & Slevin, 1996; Jin et al, 1994; Kellam et al, 1967; Mosher et al., 1995; Vaglum et al., 1985). Moreover, the review highlighted that an optimal environment for inpatients with psychosis may be one that has high levels of support, structure, and staff support, as well as low levels of anger and staff control (Friis, 1986a; Jansson & Eklund, 2002b; Rossberg et al., 2006), as well as a degree of autonomy (Fan et al., 1994; Jin et al., 1994).

5.2 Perceptions of ward atmosphere

Many of the research papers exploring WA captured the views of inpatients and staff through the use of various measures (mainly the WAS and COPES). The review found that individual inpatient factors such as cognitive ability and level of functioning influenced perceptions of the WA (Jansson & Eklund, 2002b). The review also highlighted differences between staff and patient perceptions (Moos, 1974; Rossberg & Friis, 2004; Werbart, 1992), with some studies reporting staff perceiving higher levels of aggression than inpatients (Moos, 1974; Rossberg & Friis, 2004) and inpatients perceiving higher levels of staff control (Moos, 1974). Divergence amongst staff and patients in relation to WA perceptions may have a detrimental impact on inpatients if it leads to a ward environment with potentially negative effects on inpatient outcomes (Brunt & Rask, 2005). Staff must therefore work to create an appropriate

WA and work hard to prevent too many patients being on the same ward that need different atmospheres (Brunt, 2008).

5.3 Ward atmosphere and patient functioning

This review also focused on another branch of WA literature that centred on patient outcomes. These studies highlighted the positive effects of adapting the ward environment, to have a quieter and calmer atmosphere, with lower levels of aggression and higher levels of staff support (Kellam et al., 1967). These environments were shown to improve mood, attitude and functioning (Christenfeld et al., 1989; Vaglum et al., 1985), as well as reduce acute psychotic symptomatology (Fan et al., 1994; Jin et al., 1994), in some cases as effectively as neuroleptics (Bola & Mosher, 2003; Mosher, et al., 1995).

However, one study highlighted the negative influence of an understimulating environment on negative symptoms of psychosis (Oshima, et al., 2005), emphasising the delicate balance in relation to positive and negative factors in the WA. The review has also hinted that more structured environments may be more beneficial to inpatients with psychosis who are newly admitted compared to those who are further down their treatment path (Cohen & Khan, 1990).

5.4 Limitations of studies

The research relating to WA and its impact on inpatients with psychosis has been shown to have various methodological weaknesses. These include small sample sizes, non blind outcome assessments, and few longitudinal methods. In addition, the studies utilise self-report measures of WA, which have inherent weaknesses. These include the risk of under-representing the sample if only those well enough to complete them are included in the study. Response biases can also be an issue, particularly if staff have helped inpatients to complete the measures. Additionally, the length of the main measure used in the studies, the WAS, is nearly 100 items long which can be problematic for patients with poor concentration and low motivation. It is therefore important to interpret the findings of studies that incorporate these types of measures with caution.

Despite these limitations, the use of self-report measures is advantageous since they provide a quick means of obtaining the views of inpatients and staff alike and are therefore beneficial to services keen on developing service provision in line with the needs of patients and staff. A briefer measure of WA, which would overcome the difficulty of administration time, would also provide a means for patients to feel that their views are important and meaningful. An additional limitation to the studies explored concerns the lack of UK based studies. Given the diverse differences in healthcare settings across different countries, not to mention the influence of cultural differences, the applicability of the evidence appraised to UK based settings is uncertain.

5.5 Clinical Implications

The results of this review highlight the beneficial effect of adopting a specific environment for inpatients with psychosis. These positive effects may potentially have favourable effects on other areas of care such as medication adherence, treatment engagement etc. In addition, if adapting the environment can improve patient outcomes, in some case as well as neuroleptics (Bola & Mosher, 2003; Mosher, et al., 1995), then this type of enhancement may be effective for those resistant to medication. Creating a sub-specialisation of wards for those with psychosis is important as it may allow psychiatric services to better meet the needs of those with psychosis (Brunt, 2008). In turn this may improve their prognosis given the beneficial effects on patient outcomes as highlighted in this review, especially given the link between WA perceptions and patient satisfaction (Rossberg et al., 2006).

5.6 Implications for Future Research

Future research should focus on any individual differences that may contribute to inpatients' perceptions of the WA. For example, do inpatients with different attachment styles have varying demands from their ward setting? Similarly, do inpatients at different stages of their illness perceive the environment differently? It would also be interesting to explore if perceptions of the ward environment have further implications in terms of treatment outcomes, or progression through a service, for inpatients with psychosis. There is also certainly a need for larger, UK based studies. Despite this, the emergence of projects such as the Cedars Community at Rampton Hospital, which uses a therapeutic community approach with treatment resistant patients in a high secure hospital (Davies & Mooney, 2004; Davies,

Bennion, McPhee, Osgerby & Wylie, 2005), instils hope that this research area is developing and expanding beyond its Scandinavian roots.

5.7 Conclusions

The results of this present review have highlighted the importance of an optimal WA for inpatients with psychosis. However, there appear to be some limitations inherent in the reviewed studies therefore care must be taken not to over-generalise the findings.

REFERENCES

* Reviewed studies

*Bola, J.R. & Mosher, L.R. (2003). Treatment of acute psychosis without neuroleptics: Two year outcomes from the Soteria Project. *The Journal of Nervous and Mental Disease, 191* (4), 219-229.

Bowers, L. (2002). *Dangerous and Severe Personality Disorder: Response and role of the psychiatric team.* London: Routledge.

Brunt, D. & Rask, M. (2005). Patient and staff perceptions of the ward atmosphere in a Swedish maximum security forensic psychiatric hospital. *The Journal of Forensic Psychiatry and Psychology, 16* (2), 263-276.

Brunt, D. & Rask, M. (2007). Ward atmosphere – the scarlet pimpernel of psychiatric settings. *Issues in Mental Health Nursing, 28* (6), 639-655.

Brunt, D. (2008). The ward atmosphere of single-sex wards in a maximum-security forensic psychiatric hospital in Sweden. *Issues in Mental Health Nursing, 29* (3), 221-241.

Burti, L., Andreone, N., & Mazzi, M. (2004). Reassessing treatment environments after two decades: Client and staff perceptions of an Italian community mental health service environment, then and now. *Community Mental Health Journal, 40* (3), 199-210.

Carlin, P. Gudjonsson, G. & Yates, M. (2005). Patient satisfaction with services in medium secure units. *The Journal of Forensic Psychiatry and Psychology, 16* (4), 714-728.

*Christenfeld, R., Wagner, J., Pastva, G., & Acrish, W. P. (1989). How physical settings affect chronic mental patients. *Psychiatry Quarterly, 60* (3), 253-264.

*Cohen, S., & Khan, A. (1990). Antipsychotic effect of milieu in the acute treatment of schizophrenia. *General Hospital Psychiatry, 12* (4), 248-251.

Collins, M. & Munroe, P. (2004). Preventing and managing violence and aggression in in-patient settings. In P. Campling, S. Davies, & G. Farquharson (2004). *Toxic institutions. From toxic institutions to therapeutic environments: Residential settings in mental health services* (pp. 131-142). London: Gaskell Press.

Cook, T.D. & Campbell, D.T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Boston: Houghton Mifflin.

Concoran, C., Walker, E., Huot, R., Mittal, V., Tessner, K., Kesfler, L., et al. (2003). The stress cascade and schizophrenia: aetiology and onset. *Schizophrenia Bulletin*, 29, 671-692.

Cooper, H. & Hedges, L.V. (1994). *The Handbook of Research Synthesis*. Russell Sage Foundation, New York.

Davies, S., Bennion, L., McPhee, D., Osgerby, C., & Wylie, B. (2005). Cedars community: Using a therapeutic community approach in a high security hospital. *Therapeutic Communities: The International Journal for Therapeutic and Supportive Organisations*, 26 (2), 139-149.

Davies, S., & Mooney, P. (2004). The birthing pains of cedars community: Developing a therapeutic community for patients with schizophrenia in a high security hospital. *Therapeutic Communities: The International Journal for Therapeutic and Supportive Organisations, 25* (1), 5-15.

Department of Health. (2002). *Modernising mental health service: Inspection of mental health services. London*: The Stationery Office Ltd.

Department of Health. (2005a). *Creating a patient-led NHS: delivering the NHS Improvements Plan.* London: Department of Health.

Department of Health (2005b). *New ways of working for psychiatrists: enhancing effective, person-centres services through new ages of working in multidisciplinary and multiagency contexts.* London: Department of Health.

Fagin, L. (2004). Management of personality disorders in acute in-patient settings. Part 1: Borderline personality disorders. *Advances in Psychiatric Treatment, 10*, 93-99.

*Fan, Z., Huang, J., Wu, Q., & Jiang, S. (1994). Comparison of standard locked-ward treatment versus open-ward rehabilitation treatment for chronic schizophrenic patients. A one-year controlled trial in canton. *British Journal of Psychiatry Supplement, 24*, 45-51.

Feldbrugge, J. (1992). Rehabilitation of patients with personality disorders: Patient-staff used as a working model and a tool. *Criminal Behaviour and Mental Health, 2* (2), 169-177.

Forster, J. et al. (2003). The perceived expressed emotion in staff scale. *Journal of Psychiatric and Mental Health Nursing, 10*, 109-117.

*Friis, S. (1986a). Characteristics of a good ward atmopshere. *Acta Psychiatrica Scandinavica, 74*: 469-473.

Friis, S. (1986b). Factors influencing the ward atmosphere. *Acta Scandinavica Psychiatrica, 73*, 600-606.

Goodwin, I., Holmes, G., Cochrane, R., & Mason, O. (2003). The ability of mental health services to meet clients' attachment needs: The development of the Service Attachment Questionnaire. *Psychology and Psychotherapy: Theory, Research, and Practice, 76* (2), 145-161.

*Hansen, J.T. & Slevin, C. (1996). The implementation of therapeutic community principles in acute care psychiatric hospital settings: An empirical analysis and recommendations to clinicians. *Journal of Clinical Psychology, 52* (6), 673-678.

Isohanni, M. (1980). The influence of changes on treatment outcomes in a psychiatric ward. *Psychiatria Fennica, 67*-76.

*Jansson, J., & Eklund, M. (2002a). How the inner world is reflected in relation to perceived WA among patients with psychosis. *Social Psychiatry and Psychiatric Epidemiology, 37* (11), 519-526.

*Jannson, J., & Eklund, M. (2002b). Stability of perceived ward atmosphere over time, diagnosis and gender for patients with psychosis. *Nordic Journal of Psychiatry, 56* (6), 407-412.

*Jin, Z. (1994). Effect of an open-door policy combined with a structured activity programme on the residual symptoms of schizophrenic in-patients. A six-month randomised controlled trial in Vanbian, Jilin. *British Journal of Psychiatry Supplement, 24*, 52-57.

Johansson, H. & Eklund, M. (2004). Helping alliance and ward atmosphere in psychiatric in-patient care. *Psychology and Psychotherapy: Theory, Research and Practice, 77*, 511-523.

*Kellam, S. G., Goldberg, S. C., Schooler, N. R., Berman, A., & Shmelzer, J. L. (1967). Ward atmosphere and outcome of treatment of acute schizophrenia. *Journal of Psychiatric Research, 5* (2), 145-163.

Langdon, P.E., Cosgrave, N., & Tranah, T. (2004). Social climate within an adolescent medium-secure facility. *International Journal of Offender Therapy and Comparative Criminology, 48* (4), 504-515.

Lelliot, P. (1996). Meeting the accommodation needs of the most severely mentally ill. *Journal of Interprofessional Care, 10* (3), 241-247.

Lenroot, R., Bustillo, J.R., Lauriello, J., & Keith, S.J. (2003). Integrated treatment of schizophrenia. *Psychiatric Services, 54* (11), 1499-1507.

Lerner, V., Bergman, J., Borokhov, A., Loewenthal, U., & Miodownik, C. (2005). Augmentation with amisulpride for schizophrenic patients nonresponsive to antipsychotic monotherapy. *Clinical Neuropharmocology, 28* (2), 66-71.

Ma, K. (2007). Attachment theory in adult psychiatry. Part 2: Importance to the therapeutic relationship. *Advances in Psychiatric Treatment, 13*, 10-16.

*Melle, I., Friis, S., Hauff, E., Island, T. K., Lorentzen, S., & Vaglum, P. (1996). The importance of ward atmopshere in inpatient treatment of schizophrenia on short-term units. Psychiatry Services, 47, (7), 721-726.

Middleboe, T., Schjodt, T., Byrsting, K., Gjerris, A. (2001). Ward atmosphere in acute psychiatric in-patient care: patient's perceptions, ideals and satisfaction. *Acta Psychiatrica Scandinavica, 103*: 212-219.

Mills, J.A. & Harrison, T. (2007). John Rickman, Wilfred Ruprecht Bion, and the origins of the therapeutic community. *History of Psychology, 10* (1), 22-43.

Moos, R.H. & Houts, P.S. (1967). Assessment of the social atmospheres in psychiatric wards. *Journal of Abnormal Psychology, 73*, 595-604.

Moos, R.H. (1968). The assessment of social climates of correctional institutions. *Journal of Research in Crime and Delinquency, 5* (2), 174-188.

Moos, R.H. (1974). *Community-orientated programs environment scale*. Palo Alto, California: Consulting Psychologists Press; 1974.

*Mosher, L. R., Vallone, R., & Menn, A. (1995). The treatment of acute psychosis without neuroleptics: Six-week psychopathology outcome data from the Soteria Project. *International Journal of Social Psychiatry, 41* (3), 157-173.

Norton, K. (2004). Re-thinking acute psychiatric inpatient care. *International Journal of Social Psychiatry, 50*, 274-284.

*Oshima, I., Mino, Y., & Inomata, Y. (2005). Effects of environmental deprivation on negative symptoms of schizophrenia: A nationwide survey in Japan's psychiatric hospitals. *Psychiatry Research, 136* (2-3), 163-171.

Petrova, M., Dale, J. & Fulford, B. (2006). Values-based practice in primary care: Easing the tensions between individual values, ethical principles and best evidence. *British Journal of General Practice, 56* (530), 703-709.

Quirk, A. & Lelliot, P. (2001). What do we know about life on acute psychiatric wards in the UK. A review of the research evidence. *Social Sciences and Medicine, 53*, 1565-1574.

*Rossberg, J. I., & Friis, S. (2003a). Do the spontaneity and anger and aggression subscales of the ward atmosphere scale form homogeneous dimensions? A cross-sectional study of 54 wards for psychotic patients. *Acta Psychiatrica Scandinavica, 107* (2), 118-123.

*Rossberg, J., & Friis, S. (2003b). A suggested revision of the ward atmosphere scale. *Acta Psychiatrica Scandinavica, 108* (5), 374-380.

*Rossberg, J. I., & Friis, S. (2004). Patients' and staff's perceptions of the psychiatric ward environment, *Psychiatric Services, 55* (7), 798-803.

*Rossberg, J. I., Melle, I., Opjordsmoen, S., & Friis, S. (2006). Patient satisfaction and treatment environment: A 20-year follow-up study from an acute psychiatric ward. *Nordic Journal of Psychiatry, 60* (2), 176-180.

Rossberg, J. I., Melle, I., Opjordsmoen, S., & Friis, S. (2008). The relationship between staff members' working conditions and patients' perceptions of the treatment environment. *International Journal of Social Psychiatry, 54* (5), 437-446.

Schalast, N., Redies, M., Collins, M., Stacey, J., & Howells, K. (2008). EssenCES, a short questionnaire for assessing the social climate of forensic psychiatric wards. *Criminal Behaviour and Mental Health, 18*, 49-58.

Smith, J. (2000). The healing elements of an environment for those with chronic psychosis. *Therapeutic Communities: The International Journal for Therapeutic and Supportive Organisations, 21* (1), 37-46.

Stanton, A.H. (1962). *Ego and Milieu.* In J. Cumming & E. Cumming (Eds). Atherton Press. New York.

Uhlmann, C. & Steinert, T (2008). Ward atmosphere and treatment success after implementing a specialised hospital ward for patients with personality disorders and acute crises. *Verhaltenstherapie, 18* (4), 230-236.

*Vaglum, P., Friis, S., & Karterud, S. (1985). Why are the results of milieu therapy for schizophrenic patients contradictory? An analysis based on four empirical studies. *Yale Journal of Biology and Medicine, 58* (4), 349-361.

*Werbart, A. (1992). Exploration and support in psychotherapeutic environments for psychotic patients. *Acta Psychiatrics Scandinavica, 86* (1), 12-22.

Wilmer, H.W. (1958). Toward a definition of the therapeutic community. *American Journal of Psychiatry, 114*, 824-33.

PART TWO:

RESEARCH REPORT

Service Attachment:

The Relative Contributions of Ward Climate Perceptions and Attachment Anxiety and Avoidance in Male Inpatients with Psychosis

ABSTRACT

Present literature suggests that the relationship between mental health services and their clients is becoming increasingly important, particularly since current thinking pertains to the idea that mental health care institutions can represent a positive attachment figure for inpatients. Service attachment relates to mental health services' ability to meet the attachment needs of patients through the provision of a "secure base", which the attachment literature suggests should be the prime function of mental health services. This "secure base" provision is an important consideration, particularly for forensic inpatients where there is a predominance of insecure attachment styles, fragmented attachment histories, and frequent episodes of distress related to their diagnosis of psychosis. The purpose of the current cross-sectional study was to assess whether inpatient perceptions of the ward climate, or their level of attachment anxiety and avoidance, had a greater contribution to their attachment to a service. Male inpatients with a diagnosis of psychosis (N = 76) residing in four regional Medium Secure Units completed questionnaire measures of service attachment, attachment style, and ward climate. Variables were analysed using Pearson's product-moment correlations and hierarchical multiple regressions, controlling for negative affect. Results indicated that perceptions of the ward climate contributed more significantly than attachment anxiety and avoidance to service attachment. Furthermore, the element of the ward climate relating to positive therapeutic relationships between staff and patients was more contributory to service attachment over other aspects of the ward climate. The results also highlighted a strong influence of state negative affect on all the measures within the current study highlighting that negative affect should be considered as a main variable in future research rather than solely as a control. Clinical implications relating to the importance of considering the ward environment in inpatient settings and the role of staff supervision and training is discussed.

Key words: Service attachment, ward climate, attachment, psychosis.

Word count: 298

1. INTRODUCTION

1.1 Development of Medium Secure Units (MSUs)

The need for the development of medium secure units (MSUs) became increasingly apparent during the 1970s following the progressive closure of mental institutions (Coid, Kahtan, Gault, Cook & Jarman, 2001). At the time of writing, there were over 14,000 inpatients[1] detained under the Mental Health Act on mental health wards in England and Wales, and nearly 4,000 of these inpatients were detained in medium or high security (Care Quality Commission, 2008).

In relation to service provision, the purpose of an adult acute psychiatric service is to "provide a high standard of humane treatment and care in a safe and therapeutic setting for service users in the most acute and vulnerable stage of their illness" (Department of Health, 2002, p. 3). Services should also have an "emphasis on care and treatment rather than punishment" (Rutherford & Duggan, 2008, p. 4), which can be difficult given the need for a fine balance between security and therapy (Dale & Gardner, 2001; Davies, 2004).

1.2 MSU inpatient services

MSUs are forensic in nature and cater for those who present a potential risk to society (Adshead, 2001). These individuals tend to be young males with a diagnosis of schizophrenia (Davies, 2004; Davison, 2004; Lelliot, 1996). In recent years, various government initiatives have been concerned with the creation of a "patient-led NHS" (Department of Health, 2005a)

[1] The term "inpatient(s)" is used throughout this paper to maintain consistency with the literature

and the development of patient-centred care (Department of Health, 2005b). Consideration of individual values, particularly those of the inpatient, has therefore become increasingly important (Petrova, Dale & Fulford, 2006). Service users play an important role in research in clinical settings and their inclusion should increasingly inform the research agenda (Oestrich, Austin & Tarrier, 2007).

With increasing emphasis being placed on care in the community (Quirk & Lelliot, 2001), and increasingly pressured acute wards, it is felt that inpatient settings are being neglected (Ford, Durcan, Warner, Hardy & Muijen, 1998). The Department of Health (2002) guidance for inpatient care highlighted that there is "incontrovertible and compelling evidence...to indicate that too often the experience of acute inpatient care is felt to be neither safe nor therapeutic" (Department of Health, 2002, p. 8). This is particularly worrying, especially since expenditure on inpatient care accounts for 65% of UK health authorities overall mental health budget (Health Select Committee, 1998; cited in Quirk & Lelliot, 2001). These issues are reflected in the research. Carlin, Gudjonsson and Yates (2005) compared a medium secure unit inpatient population with a general adult population in terms of their evaluations on aspects of care, finding that the two populations differed substantially, with the inpatient population reporting poorer evaluations of care. A further study exploring patient satisfaction revealed that those individuals suffering from psychotic illnesses experienced lower satisfaction with care compared to other patient groups (Barker, Shergill, Higginson & Orrell, 1996).

In 2007, the Royal College of Psychiatrists published the Standards for Medium Secure Units (MSUs; Tucker & Hughes, 2007). These standards mapped the physical, procedural and relational security arrangements that should be in place for MSUs. The physical and

procedural guidelines are tangible points of the guidance that can be easily achieved by mental health services, e.g. MSUs should have "a defined perimeter" (Tucker & Hughes, 2007; p. 7), "at least one nurse holding the RMN qualification on duty at all times" (Tucker & Hughes, 2007; p. 2) and "there is a policy in place for the observation and monitoring of patients who are at risk of suicide" (Tucker & Hughes, 2007; p. 5). However, the less tangible aspects of the guidance, which relates to relational security, are more difficult to achieve. The Department of Health (DOH) defines relational security as;

"the formation of a therapeutic alliance between staff and patients centred in continuing risk assessment...and staff should be encouraged to develop good quality relationships with patients that motivate and encourage them to use the therapeutic milieu that is provided" (DOH, 2007).

The lack of emphasis, or difficulty in achieving suitable levels of relational security in MSUs, is supported by the Quality Network for Forensic Mental Health Services Annual Report 2007-2008 which reported that relational security scored least in terms of fully meeting medium security standards (Painter & Tucker, 2008). This highlights the very real common conflict between security and therapy that arises in forensic mental health services when their primary function is to ensure the continuing safety of the public whilst providing appropriate treatment to patients (Dale & Gardner, 2001).

The definition of relational security has been further developed by Kennedy (2002) who talks about the quantitative aspects of relational security (i.e. the staff to patient ratio and time spent with patients) versus the more qualitative aspects of relational security (i.e. the balance between intrusiveness and openness, and levels of trust).

The intangibility of relational security, particularly the more qualitative aspects, combined with the dearth of research that has been conducted into exploring how the changing institutional context of inpatient care is affecting inpatients and their experience of the service (Quirk & Lelliot, 2001), may explain the deficiencies in provision of suitable levels of relational security within services. Given that relational security is concerned with developing good interpersonal relationships between staff and patients (Dale & Gardner, 2001), it is important to assess the importance of this, particularly in relation to individuals who have already experienced fragmented relationships in the past and for whom detention can be a very stressful experience.

1.3 The experience of being an inpatient

Being detained as an inpatient can be a stressful (Adshead, 2004) and bleak experience (Quirk & Lelliot, 2001). Given the predominance of insecure attachment styles, particularly avoidant, in inpatients with a diagnosis of psychosis (Dozier, Stevenson, Lee, & Valliant, 1991; Timmerman & Emmelkamp, 2006), this experience can be exacerbated by services not adequately meeting the attachment needs of this vulnerable group. Detention to an institution can be a traumatic experience, which is arguably endured by a population that, given their poor attachment histories (Dozier et al., 1991; Timmerman & Emmelkamp, 2004), find it difficult to manage distress and anxiety (Adshead, 2004). During this time of distress, some inpatients may re-enact unconsciously their early attachment experiences, potentially causing further deterioration in their mental health (Humphreys & Bree, 2004). This highlights the growing importance for services to make inpatients feel safe and secure within a service. Safety and a sense of security reflects a basic human need (Maslow, 1943) and research has shown that the psychiatric ward can be a frightening place to be where there is a risk of

violence occurring unexpectedly (Quirk & Lelliot, 2001). The first therapeutic task of an inpatient ward should therefore be to provide a sense of containment and safety for these individuals (Firth, 2004). One way of doing this is through the provision of a good quality physical environment and a healthy therapeutic milieu which is an essential aspect of maintaining a healthy institution (Davies, 2004). The importance of this will be discussed below.

1.4 The importance of ward climate in forensic inpatient services

Previous research has shown the psychosocial environment to be very influential in the course of schizophrenia (Holmes, 2004a), and a supportive ward atmosphere (WA) has been considered by many as a precondition for successful treatment (Schalast, Redies, Collins, Stacey & Howells, 2008).

Ward climate is viewed as a particularly relevant issue to inpatients with psychosis since they are more "sensitive to disturbances in the ward milieu" (Isohanni, 1980, p. 70). Research has shown that this patient group require a specific optimal environment that has high levels of support and organisation and low levels of anger and aggression (Friis, 1986; Jansson & Eklund, 2002; Smith, 2000). Inpatients who have experienced these optimal ward climates have shown improvements in treatment outcomes (Cohen & Khan, 1990; Kellam, Goldberg, Schooler, Berman & Scmelzer, 1967), as well as fewer symptoms of schizophrenia (Bola & Mosher, 2003; Jin, 1994; Mosher, Vallone & Mann, 1995), and improved general functioning and mood (Christenfeld, Wagner, Pastva & Acrish, 1989; Fan, Huang, Wu & Jiang, 1994). These optimal wards have also been perceived more favourably by inpatients with psychosis (Vaglum, Friis, & Karterud, 1985), further demonstrating the overall importance of the ward

climate on this patient group. Conversely, by providing the incorrect type of environment for those with psychosis, services may be impacting negatively on inpatients' wellbeing (Moos & Houts, 1967) and treatment outcomes (Middleboe, Schjodt, Byrsting, & Gjerris, 2001).

With many patients residing on acute wards (Concoran et al., 2003; Goodwin et al., 2003), and with the possibilities of many interrelationships (Forster et al., 2003), a high staff turnover (Goodwin et al., 2003), and staff working many different shifts (Ma, 2007), the dynamic nature of many ward environments becomes apparent. Given this dynamic nature of many ward environments on the one hand, with the need for high levels of organisation and control of aggression (Friis, 1986; Jansson & Eklund, 2002; Smith, 2000) on the other, it becomes an important task to differentiate which aspects of the ward environment contribute to more positive outcomes.

1.4.1 Measuring ward climate

One way of measuring the ward climate is to use the EssenCES ward climate measure (Schalast et al., 2008). This measure breaks ward climate into three measureable subscales that can be rated between "not at all" and "very much", namely, "Therapeutic Hold" which assesses the depth of the staff-patient relationship (e.g. "Staff know patients and their personal histories very well"), "Patient Coherence" which explores support from other inpatients (e.g. "The patients care for each other"), and "Experienced Safety" which addresses how safe the inpatients feel on the ward (e.g. "Really threatening situations can occur here").

1.4.2 Important aspects of the ward climate

Many researchers feel that the therapeutic relationship between staff and patients is the most fundamental aspect within mental health care (McGuire, McCabe, & Priebe, 2001), and for this to evolve, patients must feel safe and comfortable on the ward and be in a supportive environment (Dziopa & Ahern, 2009). Despite Government funding recently investing in eliminating the environments that put patients' safety at risk, mental health advocates are stating that this is not enough since wards need to be therapeutic as well as safe (Samarasekera, 2007).

Given that the quality of the relationship is the best predictor of good outcomes in therapy (Roth & Fonagy, 1996), if translated into inpatient care it is to be expected that a good relationship between staff and patients would also improve treatment outcomes (Holmes, 2002). This is relevant when working with inpatients with a diagnosis of psychosis when the quality of the relationship is a key determinant of outcome in psychosis (Berry, Barrowclough & Wearden, 2007).

Previous research has found that much of the therapeutic relationship between staff and patients is derived from the staff members attitude of being kind and supportive rather than being impersonal and detached (Cardell & Pitula, 1999), highlighting that it is not merely the presence of staff that is important, it is the quality of the relationship. Dziopa (2009) identified nine multi-faceted constructs of a therapeutic relationship between staff and patients, e.g. staff members being genuine, empathic, demonstrating respect and boundaries, and being available. Highlighting these constructs as part of staff training, and importantly reflection (Welch, 2005) would be extremely beneficial, particularly since a good nurse-

patient relationship can play a large part in sustaining the patient in the face of emotional difficulties (Moyle, 2003), and especially since these qualities do not come instinctively to nurses (Moyle, 2003). A factor that may influence the capacity of psychiatric staff to understand patient needs and form positive therapeutic relationships is their own attachment style (Berry et al., 2008a), which is still currently a new area of research.

In terms of feeling safe on the ward, one study found that the three aspects of the staff-patient relationship that seemed to impact on patients' feelings of safety concerned the extent to which staff were believed to be able to protect the patients from the actions of other patients, the ability of staff to understand patients, and the lack of boundary infringements by staff (Wood & Pistrang, 2004).

Quite clearly, staff are an important aspect of the ward environment in terms of the relationship that they have with patients. It is crucial to consider how they can make the environment more therapeutic in ways other than through this modality. Nesset, Rossberg, Almvik and Friis (2009) concluded from their study that a focused three-week staff-training programme aimed at improving the WA revealed a change in the desired direction for six key subscales of the WA Scale. In addition, patients reported an increase in satisfaction. Educating staff as to the important aspects of the ward milieu is therefore an effective intervention.

Given the potentially encouraging effects of an optimal WA on inpatients with psychosis, especially with regards to the staff-patient relationship, it is being recognised that positive ward climate perceptions may have an influence on an inpatient's attachment to a service.

1.5 Service attachment in inpatient forensic services

Service attachment is defined in terms of a "mental health service's ability to meet the attachment needs of clients" (Goodwin et al., 2003, p. 145), and involves the service's ability to provide a "secure base" (Adshead, 1998), which the attachment literature suggests should be the prime function of mental health services (Holmes, 2004a). This secure base provision is felt to promote a sense of security thus promote recovery (Adshead, 2001).

Service attachment is primarily measured using the Service Attachment Questionnaire (SAQ; Goodwin, Holmes, Cochrane & Mason, 2003). This is a 25-item measure, which measures different aspects of a service. These different aspects consist of Subscale 1: Being attended to (e.g. "I have somebody who listens attentively to me"), Subscale 2: Being there – consistency and continuity (e.g. "I have regular time with the same person that knows me and my problems"), Subscale 3: Being given enough time – ending and leaving (e.g. "I feel confident that support will be provided when I am discharged"), Subscale 4: Safe environment (e.g. "I feel safe within the service"), Subscale 5: Relationships which enable helpful talking (e.g. "I don't feel judged, just accepted"), and Subscale 6: Human contact and comfort (e.g. "It feels like there's a "them and us" attitude from the staff").

Whilst initially it would appear that the service attachment scale measures similar constructs to the ward climate scale, it is worth noting that whilst both measures appear to focus on relational aspects of the service or ward, i.e. the staff-patient relationship, further examination reveals that the ward climate measure has a distinct focus on the *depth of the staff-patient relationship* (e.g. in relation to staff knowing patient histories well) in addition to other facets of the environment such as how safe patients feel and how they perceive the support from

other patients. On the other hand, the service attachment measure has more of a distinct focus on the actual *presence of the staff-patient relationship*. Despite appearing to overlap, these two measures may indeed tap into the relational constructs of a ward or service but they are mutually exclusive in that they measure different aspects of this relationship. As previous research literature has highlighted, the depth of the staff-patient relationship has been deemed more important than just the presence of this relationship (Cardell & Pitula, 1999).

Service attachment therefore appears to have a central focus on measuring how supported patients feel within the service they reside in, which, based on previous research literature, is based strongly on the therapeutic relationship. Attachment theory is useful for conceptualising which aspects of the relationship are important and may even contribute to reducing the incidence of negative staff-patient interactions (Berry et al., 2007).

The following section briefly explains the relevance of attachment theory to service attachment whilst highlighting the importance of considering inpatients' attachment histories.

1.5.1 Attachment and inpatients with a diagnosis of psychosis

Among adult attachment researchers there is the common belief that attachment theory can inform various aspects of mental health service provision, e.g. the concept of continuity of care, whereby an inpatient is allocated a "keyworker" to meet with regularly and consistently (Goodwin, 2003). In addition, attachment theory is relevant to institutionalisation since patients may inevitably bring with them their mental representations of previous and existing relationships (Schuengel & Van Ijzendoorn, 2001). Since admission may be the result of a breakdown in a patient's own attachment system, resulting from, for example, an act of

violence towards a family member (Adshead, 2001), it is important to appreciate the importance of attachment theory, especially when inpatients may no longer be linked with their pre-existing network of attachment relationships (Ma, 2007) and may be in need of safety and security in a time of extreme psychological distress. Attachment behaviour does function as a homeostatic mechanism for modulating distress (Bowlby, 1980). However, "those who get admitted to institutions have either lost, or have never had, the capacity to manage their own distress without dissociating, getting too close, getting too far, getting violent or going mad" (Adshead, 2001, p. 328).

Previous literature highlights that admission to an inpatient unit can be a stressful experience (Adshead, 2004) and given that attachment behaviours can be triggered by environmental threats and illness (Bowlby, 1977), the importance of an inpatient's attachment style in influencing their attachment to a service is highly relevant, particularly since a majority of inpatients have fragmented attachment histories (Dozier, Stevenson, Lee, & Valliant, 1991; Timmerman & Emmelkamp, 2006). In addition, the attachment system is also likely to be very important in relation to inpatients experiencing episodes of psychosis since it is triggered by and determines their help seeking behaviour during these times of psychological distress (Berry, Barrowclough & Wearden, 2008b). Knowledge of an inpatient's attachment histories may therefore provide useful ways of understanding inpatients' difficulties, particularly those with staff and other patients (Berry et al, 2008b).

Furthermore, the attachment literature indicates that insecure attachments can have a deleterious effect on people's mental health (Goodwin, Holmes, Cochrane, & Mason, 2003), Insecure attachment styles, which are predominant in forensic inpatient populations (Dozier et al., 1991; Timmerman & Emmelkamp, 2004), have been associated with increased

psychotic symptomatology (Ponizovsky, Nechamkin, & Rosca, 2007), poorer engagement with treatment (Dozier, 1990), less engagement with services (Tait, Birchwood & Trower, 2003), and less satisfaction with services (Rossberg, Melle, Opjordsmoen & Friis, 2006). Therefore by repeating experiences of insecure attachments, services may actually be "harming" rather than helping patients (Goodwin et al., 2003).

1.5.2 Attachment representations

Attachment representations and styles can be a confusing area, especially within forensic inpatient services, where many have experienced fragmented attachments (Schuengel & Van Ijzendoorn, 2001). To overcome this difficulty, this current study has adopted the two dominant ways of conceptualising attachment styles; namely attachment avoidance and attachment anxiety (Brennan, Clarke & Shaver, 1998), as utilised by Berry and colleagues in their Psychosis Attachment Measure (PAM) used in this current study (Berry, Wearden, Barrowclough & Liversidge, 2006; Berry et al., 2008b).

Avoidant attachment style (attachment avoidance)

Avoidant attachment is characterised by the fear of intimacy and discomfort with closeness and dependence (Wei, Vogel, Ku & Zakalik, 2005). An avoidant attachment style is associated with attempts to negate or ignore affective distress in self or others and may explain why this style is over-represented in a group who have demonstrated the ability to ignore distress in others (Adshead, 2004). These individuals tend to have experienced distant, dismissive or unreliable care (Hunter & Maunder, 2001), and are more likely to respond to their problems by discounting the severity of their feelings and distancing themselves from

others (Wei et al., 2005). This means that avoidantly attached individuals utilise emotion regulation strategies that involve the suppression of negative thoughts and feelings (Diamond, Hicks & Otter-Henderson (2006). Dozier (1990) highlighted these individuals as being resistant to treatment, less likely to seek out treatment and more likely to reject it.

Anxious attachment style (attachment anxiety)

Attachment anxiety is defined as the fear of rejection and abandonment (Wei et al., 2005). The internal working model of an anxious patient predicts that a constant distress signal is the best way of maintaining proximity to a caregiver; however, this patient will invariably find others' help insufficient for their needs (Hunter & Maunder, 2001). These individuals appear to have developed little faith in their own ability to manage and therefore turn to others in an anxious, clingy manner, with others experiencing them as having poor control of their distress (Hunter & Maunder, 2001). These individuals tend to be more emotionally reactive to their problems (Wei et al., 2005). Management recommendations suggest providing reassurance to these individuals before they ask for it and having the function of a secure base for them (Hunter & Maunder, 2001), which highlights the importance of recognising what constitutes a secure base for these individuals.

1.5.3 Attachment and the institution

Given an inpatient's psychopathology and the unpredictability of some ward environments, an inpatient's typical experience of insecure patterns of rejection may be replayed by the service (Holmes, 2004a). Attachment histories are relevant to progress through an institution (Adshead, 2001), especially since damaging attachments may be re-enacted in the institution

(Adshead, 2004; Waters & Cummings, 2000). The first task of any therapeutic institution should therefore be to "do no harm" (Farquharson, 2004, p. 18). By breaking this cycle and not repeating the bad experiences of insecure attachments, the institution could potentially provide a secure attachment for this population (Goodwin et al., 2003). Identifying inpatients with attachment avoidance and anxiety early on in their admission may therefore highlight to the services their need for increased input and avoid some of the negative attributions and appraisals by staff (Berry et al., 2008b).

1.5.4 The service as an attachment figure

Attachment and the provision of a secure base should always be a consideration for services caring for people who are not connected to their normal attachment networks, and who are also experiencing the stress associated with being an inpatient (Schuengel & Van Ijzendoorn, 2001). The central function of an attachment figure may therefore be protection, as well as a regulator of emotions during times of distress (Adshead, 2004). By providing containment, the inpatient setting and staff teams can often evoke very intense and pathological attachment among their patients (Firth, 2004). Services must therefore be capable of evaluating themselves and adapting to respond to the fluctuating demands of particular sub-groups of patients (Norton, 2004).

Service attachment is an important idea, particularly given the higher prevalence of insecure attachment styles and poorer attachment histories of forensic inpatient populations (Fonagy et al., 1996; Timmerman & Emmelkamp, 2006). Goodwin et al. (2003) found that those receiving inpatient services had significantly lower mean totals on a measure of service attachment than those receiving other services (Goodwin et al., 2003). This may have been

due to the fact that in-patients come into contact with a wide variety of services in different settings and workers on different shifts (Ma, 2007). This idea not only applies to inpatient settings, but community settings such Assertive Outreach Teams, with attachment considered as being to the team, rather than to individuals (Goodwin et al., 2003).

Given the potentially negative impact of services on inpatients as highlighted, and with current thinking pertaining to the idea of the institution as an attachment figure (Goodwin et al., 2003), the idea of improving service attachment becomes increasingly important and accessible. This becomes ever more important when considering that "psychologically damaged" individuals who have extremely fragmented attachment histories may need many years of connection to a secure person or place before their experience is internalised enough for them to feel safe in exploring psychological issues (Holmes, 1993). Since the therapist is able to create some of the parameters of a secure base in working with patients (Holmes, 2002) so potentially can the service.

1.6 Negative affect and psychosis

Negative affect is an important consideration when conducting research with individuals with a diagnosis of psychosis, particularly since anhedonia, which is the decreased capacity to experience pleasure, is a core feature of schizophrenia (Blanchard, Mueser & Bellack, 1998). Their ability to cope with even mild negative affect is impaired in these individuals, which may be due to limited attentional capacities or a self-protective mechanism to reduce or avoid stress (Bellack, Mueser, Wade, Sayers & Morrison, 1992). Since negative affect may introduce self-reporting bias (Gray & Watson, 2007), it is important that this variable is controlled for in any research study involving individuals with a diagnosis of psychosis. This

is particularly important since previous research has found greater negative affect and social anxiety in individuals with schizophrenia (Barry, Lakey & Orehek, 2007; Blanchard et al., 1998). In another study, Wei and colleagues (2005) found that the presence of attachment anxiety and attachment avoidance in a sample of college students was linked to psychological distress, including negative affect, which would be relevant to those with a diagnosis of psychosis since they predominantly present with insecure attachment styles.

1.7 Rationale and Overview

Despite the development of a "patient-led NHS" (Department of Health, 2005a), the fact that inpatient care is viewed as unsafe and untherapeutic (Department of Health, 2002), makes it apparent that services for inpatients with psychosis are in need of further development (Barker et al., 1996). Given the relevance of attachment histories in progressing through an institution (Adshead, 2001), and the positive outcomes associated with an optimal ward environment for those with psychosis, it is surprising that very little is known about how these factors influence an inpatient's attachment to a service. Current thinking suggests that the institution can become a positive attachment figure (Goodwin et al., 2003), and provide a secure base to help inpatients succeed in therapy (Bowlby, 1980).

Exploring the factors that may promote a better attachment to a forensic mental health service, such as ward climate perceptions and attachment avoidance and anxiety, may serve to reduce the negative patient outcomes highlighted by the research, and thus improve the quality of inpatient care. This research aims to bring together and explore the interactions between service attachment, attachment style and ward climate, in order to provide a clearer picture as to how one might view the inpatients' experience (Hunter & Maunder, 2001).

The current research specifically focused on male inpatients, given that medium and high secure settings are overwhelmingly for men, "usually 85% or more" (Kennedy, 2001, p. 97; Rutherford & Duggan, 2008). There was an awareness that those from non-White British ethnic groups would be overly represented as is highlighted by various literature (Coid, Kahtan, Gault & Jarman, 2000; Rutherford & Duggan, 2008), and recent statistics which highlight that 23% of all inpatients belonged to "black and minority ethnic groups, defined as all groups that are not White British" (Care Quality Commission, 2008, p. 22).

1.8 Research Hypotheses

The research addressed five main research hypotheses:

Research Hypothesis 1

There will be a significant association between service attachment (as measured by the Service Attachment Questionnaire; SAQ; Goodwin et al., 2003) and perceptions of the ward climate (as measured by the EssenCES ward climate measure; Schalast et al., 2008) with higher scores on service attachment being associated with higher scores on ward climate perceptions.

Research Hypothesis 2

There will be a significant association between service attachment (as measured by the SAQ) and attachment anxiety and avoidance (as measured by the Psychosis Attachment Measure; PAM; Berry et al., 2006) with higher levels of attachment anxiety and avoidance (indicated by higher scores) being associated with poorer service attachment.

Research Hypothesis 3

There will be a significant association between attachment anxiety and avoidance (as measured by the PAM) and ward climate perceptions (as measured by the EssenCES) with higher levels of attachment anxiety and avoidance being associated with poorer perceptions of the ward climate.

Research Hypothesis 4

An inpatient's perception of the ward climate (as measured by the EssenCES) or their attachment dimension score (as measured by the PAM) will contribute more to their attachment to a service (as measured by the SAQ), after controlling for negative affect (as measured by the Positive and Negative Affect Schedule; PANAS; Watson, Clark & Tellegen, 1988).

Research Hypothesis 5

Specific aspects of the ward climate (as measured by the EssenCES) will be more highly associated with service attachment (as measured by the SAQ).

2. METHOD

2.1 Design

A cross-sectional design was adopted to investigate the relationship between perceptions of ward climate, and attachment avoidance and anxiety, on attachment to services in male inpatients with a diagnosis of psychosis. Four brief self-report questionnaires were administered by the researcher, including the Positive and Negative Affect Schedule (PANAS), which was used to control for the influence of negative affect as this can influence cognitions (Mikulincer, Shaver & Pereg, 2003). The set of questionnaires took around 30 minutes to complete, which was beneficial for participants[2] with limited concentration (Oestrich, Austin & Tarrier, 2007).

2.2 Participants

2.2.1 Sample size

A multiple regression power calculation stated that in order to have 80% power, at the 5% level of significance (assuming a 2-tailed test), with moderate effect size and three predictors, a sample size of 76 was required[3]. In all, 76 patients agreed to take part in the current study. Participants were identified and recruited as follows.

[2] The term "participant" will be used in Method section to refer to the sample, although throughout the rest of the report the term "inpatient" is used to maintain consistency with the literature in this area.
[3] An online sample size calculator was used (provided at http://www.danielsoper.com/statcalc/calc01.aspx)

2.2.2 Identification and Recruitment

The participants were male inpatients, detained under the Mental Health Act 1983 (Department of Health, 2001) with a diagnosis of psychosis. They demonstrated capacity to consent, were able to provide informed written consent, and resided in four Medium Secure Units (MSUs) in England.

Potential participants were identified by the RMO[4] (Responsible Medical Officer) for each male mental illness team in all four units. Each RMO was provided with an information sheet and consent form to sign once they had identified a patient that met the inclusion criteria.

2.2.3 Inclusion and Exclusion criteria

Inpatients were included if they were able to speak English, gave written informed consent, and had a diagnosis of psychosis (clarification from the participants' RMO was sought regarding this matter). All participants also had to be a resident within the unit for at least three months to allow enough time for them to develop an attachment to the service.

2.2.4 Participant refusal rate

Of the potential 234 male inpatients detained in the four medium secure units, 113 were identified by their RMO as having capacity to take part in the research. Of these 113, 37 refused to take part in the current study. Reasons for declining included not having the

[4] The author is aware that the title of Responsible Medical Officer (RMO) has now been replaced with Responsible Clinician (RC), however, this change had not been implemented prior to the commencement of this study therefore RMO has been retained for consistency.

interest in contributing to research on the unit, not having the time available, and wanting to take part in other activities on the ward.

2.3 Measures

Each of the measures relied on participant self-report, although the measure itself was facilitated by the researcher to alleviate difficulties and reduce the possibility of missing data. This method has been shown to be reliable, is easier to implement in routine clinical settings and takes into account patients' own perceptions of their psychotic symptoms (Niv et al., 2007). A copy of the full questionnaires can be found in Appendix E.

2.3.1 Service Attachment Questionnaire (SAQ; Goodwin et al., 2003)

The SAQ is a 25-item self-report measure which is designed to measure the ability of adult mental health services to meet clients' attachment needs. Participants rate each of the 25 statements using a 4-point Likert scale with responses ranging from 1 (not at all) to 4 (always). Each of the 25 items belongs to one of 6 subscales, namely, being attended to, consistency and continuity, being given enough time (ending and leaving), safe environment, relationships which enable helpful talking, and human contact and comfort. There is one score for each subscale as well as a total score for the whole scale (maximum score is 100), with higher scores indicating a more positive service attachment. According to Goodwin et al. (2003), the SAQ has good internal consistency, with a Cronbach alpha co-efficient reported of .93.

2.3.2 Psychosis Attachment Measure (PAM; Berry et al., 2006)

The PAM is a 16-item measure based on existing measures of attachment (Bartholomew & Horowitz, 1991). Items in the measure refer to thoughts, feelings, and behaviours in close interpersonal relationships, but do not refer specifically to romantic relationships (Berry et al., 2006). In the standard version of the PAM, individuals are asked to rate the extent to which each item is characteristic of them, using a four-point scale ranging from "not at all" to "very much". Total scores are calculated for each of the two dimensions (anxiety and avoidance) by averaging individual item scores corresponding to each dimension, with higher scores reflecting higher levels of attachment anxiety and attachment avoidance (Berry et al., 2006). This measure has been shown to have good psychometric properties in two non-clinical samples (Berry et al., 2006; Berry et al., 2008b) and has recently demonstrated good internal reliability in a sample of patients with psychosis (Berry, et al., 2008b). According to Berry et al. (2006), the PAM has good internal consistency, with a Cronbach alpha co-efficient reported of .82 for the Anxiety dimension and .75 for the Avoidance dimension.

2.3.3 The Essen Climate Evaluation Schema (EssenCES; Schalast et al., 2008)

The EssenCES is a 17 item questionnaire, primarily developed for assessing essential traits of the social and therapeutic atmosphere of forensic psychiatric wards. Climate dimensions measured are Therapeutic Hold (TH), which refers to staff support, Patients' Coherence and Mutual Support (PC) which refers to peer support from other patients, and Experienced Safety (versus threat of aggression and violence) (ES) which refers to how safe the patient feels on the ward. Responses are recorded on a Likert scale format with responses ranging from "not at all" to "very much". Items are then scored from 0-4 to provide and overall total

scale score in addition to three separate scores for each of the three subscales. Higher scores for the total scale and for the subscales indicate a more positive perception of the ward climate. The measure demonstrated good internal consistency. Schalast et al. (2008) reported Cronbach alpha co-efficients ranging from 0.74 for ES to .86 for TH.

2.3.4 The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988)

The PANAS is a 20-item self-report measure of positive and negative affect. Participants are asked to rate the extent to which they have experienced ten positive (e.g. interested, excited, strong etc.) and ten negative affective states (e.g. upset, irritable, afraid etc.) during the past week. Maximum scores are 50 for positive, and 50 for negative affective states. The PANAS can measure both state and trait affect depending on the instructions given. For the purposes of the current study, participants were advised to rate how they currently feel in order to give a measure of state positive and negative affect. The measure has good reliability and validity (Watson et al., 1988), and the alpha for the negative affect scale was .87 (Watson et al., 1988).

2.4 Research Procedure

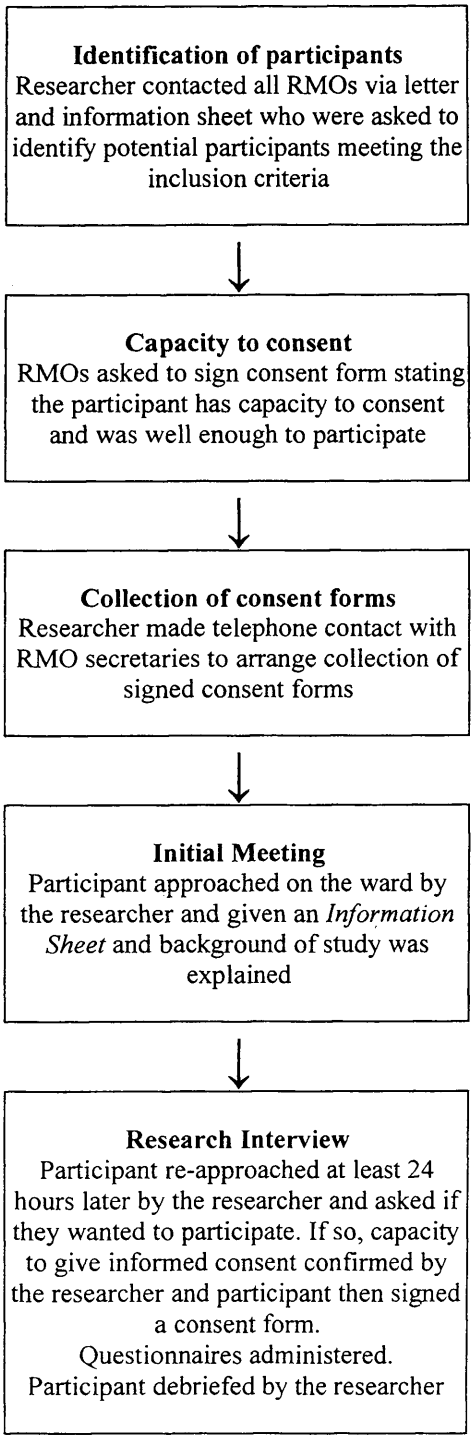
Figure 1 provides an overview of the recruitment process and the researcher's contact with the participants. On identification of potential participants by their RMO who had been provided with covering letter and information sheet (Appendix F) and consent form (Appendix G), these patients were met by the researcher and given an information sheet (Appendix H) detailing the current study and explaining their role. They were then approached after 24 hours had lapsed and asked if they wanted to take part. If so, then a

written consent form (Appendix I) was completed which highlighted that they could withdraw from the study at any point. Participants were then asked to complete the battery of four measures. These were completed in private rooms off the ward and the researcher was present throughout to administer the measures or assist in the case of any difficulties arising. Participants were given the opportunity to ask any questions before and at the end of each session.

As some of the questionnaires contained potentially sensitive questions relating to experiences in relationships and current symptomatology, several precautions were taken. The respondent was advised that they could terminate the session or take a break at any point if they become distressed. The participants were also informed prior to the session that they could access the patient advocacy service which could provide the necessary support and assistance. Despite this provision, to the best of the researcher's knowledge, it was not utilised by any of the participants.

Figure 1

Summary of researcher's contact with participants



2.5 Ethical Considerations

2.5.1 Capacity to consent

The legal requirement of informed consent is at the heart of ethical research (Howe et al., 2005). As with all mental health problems, inpatients experiencing psychosis are often vulnerable individuals although they are competent to provide consent in a wide variety of circumstances (Dunn, Lindamer, Palmer, Schneiderman & Jeste, 2001; Jeste, Depp & Palmer, 2005), therefore it is important that capacity to consent is fully explored with each participant (Howe et al., 2005; Mukherjee & Foster, 2008). For this reason, capacity to consent was assessed by the inpatients' RMO.

2.5.2 Informed consent

Potential participants were given written and verbal descriptions of the current study in order to make a rational decision about whether to take part in the study. To ensure the participant had adequate time to read the information given to them and think of any questions that may be relevant, they were re-approached by the researcher after at least 24 hours to consider their participation.

2.5.3 Confidentiality

Inpatients were advised that information collected about them would be kept anonymous and would be stored in a secure cabinet so it could not be accessed by anyone else but the researcher. This was a particularly pertinent issue given that the sample was in a closed

system of care. To ensure confidentiality and anonymity, names and ethnicity were anonymised using codes only known to the principal investigator before they were entered onto a computer database.

2.5.4 Participant distress

The potential for participant distress was minimised by ensuring various precautions were followed. These included liaising with the potential participants' RMO to ascertain capacity to consent. The researcher was also supervised by a qualified Clinical Psychologist who was familiar with the client group and setting.

2.5.5 Ethical and research and development approval

The current study received ethical approval from an NHS National Research Ethics Committee (NREC) and the Research and Development units from each NHS Trust hosting the units involved in this study (Appendix J). Governance and research sponsorship was provided by the Research and Development Unit within Leicestershire Partnership NHS Trust.

2.6 Plan of Analysis

The data were entered into and analysed using SPSS Version 16 (statistical software package for the social sciences). Data screening and other checks were carried out to ensure the assumptions concerning normal distribution, linearity, and homoscedasticity were not violated. Descriptive statistics were generated using frequency outputs. Pearson's product-

moment coefficient correlations and partial correlations were run to explore the relationships between the main variables. In order to reduce the likelihood of Type 1 errors through calculating numerous correlations, the level of statistical significance of correlation co-efficients was adjusted according to the Bonferroni criteria (Curtin & Schultz, 1998). Hierarchical regression analyses were run in order to examine the predictive power of attachment style and ward climate perceptions on service attachment whilst controlling for negative affect. Negative affect was entered in the first step, followed by attachment style and ward climate at Step 2.

3. RESULTS

3.1 Descriptive Data

In total, 76 male inpatients participated in the current study and all had a diagnosis of psychosis. The mean age of the sample was 35.55 (*SD* = 8.98, range 21-65) years and the mean duration of stay was 16.68 (*SD* = 16.31, range 3-81) months. A breakdown of the sample's ethnicity revealed that over 70% (71.1%; *n* = 54) of the participants were White British, over a tenth (11.8%; *n* = 9) were classified as Mixed Race, whilst a small proportion were Caribbean (6.6%; *n* = 5), Asian (5.3%; *n* = 4), Pakistani (2.6%; *n* = 2) and African (2.6%; *n* = 2).

3.2 Study Measures

3.2.1 Internal consistency

Table 1

Cronbach alphas of the scales used

Scale	Cronbach Alpha
Service Attachment Questionnaire (SAQ)	
1. Listening	.65
2. Consistency	.42
3. Ending	.48
4. Safety	.62
5. Talking	.60
6. Comfort	.63
SAQ Total	.87
Psychosis Attachment Questionnaire (PAM)	
Anxiety Dimension	.84
Avoidant Dimension	.60
EssenCES Ward Climate Measure	
1. Experienced Safety	.79
2. Patient Coherence	.78
3. Therapeutic Hold	.62
EssenCES Total	.83

Table 1 presents the Cronbach alphas for the scales used in the current study. Despite some of the measure's subscales having lower Cronbach alphas, the Cronbach alphas for the total scores were relatively similar to those obtained in previous studies (Goodwin et al., 2003; Berry et al., 2006; Schalast et al., 2008). Only two subscales of the SAQ, namely Consistency and Endings, had a significantly lower Cronbach alpha. This finding is in line with

Goodwin's finding in her study where she reported the lowest co-efficient related to Ending and highlighted that this may be reasonably expected to show some variance given that there will be differences in the inpatients' progress through an institution (Goodwin et al., 2003). Whilst some may be beginning their treatment, others may be preparing for discharge therefore it is expected that there will be variance in these results. The two items (Question 15 and 25 of the SAQ) that reduce the co-efficient in relation to Ending supports this idea. Question 15 of the SAQ ("I worry that I won't be better within the allocated time and will need longer") appears more directed at someone just entering the service, whereas Question 25 ("I am made to feel that I am a burden to the service and outstaying my welcome") appears more directed at those who have been in the service longer. It is therefore understandable that there should be variance in the results regarding this subscale. The low co-efficients for these subscales did not however impact on the scale's overall reliability which was .87.

3.2.2 Comparison of measures with previous studies

Given that some of the measures are relatively new, the means and standard deviations of the main measures in this study were compared to those obtained in previous studies in order to find out whether the current findings were in line with those previous findings. No tests of significance were undertaken, only the means and standard deviations were checked to look for patterns between current and previous results.

3.2.2.1 Service Attachment Questionnaire (SAQ)

The mean Total score and subscale scores for the SAQ are shown in Table 2. As shown, the mean total score for SAQ Total was 72.62 (*SD* 11.89), which is very similar to that found with a similar inpatient group (Goodwin, 2003).

Table 2

Mean scores of SAQ across two studies

SAQ Subscale	Mean (*SD*) (Current study; N = 76)	Mean (*SD*) (Goodwin, 2003; N = 34)
1. Listening	11.79 (2.41)	11.71 (2.53)
2. Consistency	11.89 (2.20)	10.71 (2.95)
3. Ending	15.59 (2.88)	14.21 (3.57)
4. Safety	10.82 (2.87)	11.88 (2.93)
5. Talking	10.66 (2.62)	11.68 (2.77)
6. Comfort	11.99 (2.56)	12.33 (2.42)
Total	72.62 (11.89)	72.81 (14.79)

3.2.2.2 EssenCES Ward Climate Measure

Table 3 presents the means for the EssenCES in this study compared to those obtained by Howells and colleagues (2007; in press). As can be seen, there was a difference in the mean EssenCES Total score obtained in the current study ($M = 37.92$, $SD = 9.04$) and the results obtained in the study by Howells and Stacey (2007; $M = 27.10$) and the Howells et al. study

(in press; $M = 28.29$, $SD = 8.23$). The Howells et al. (in press) study had a similar sample size but was in a high secure setting rather than a medium secure setting. In addition, their sample contained individuals with Dangerous and Severe Personality Disorder as well as those with psychosis. Therefore, either the more secure setting and/or the diagnosis may have contributed to this difference.

Table 3

Mean scores of EssenCES scores across current study (conducted in MSU) and two previous studies (conducted in high secure settings)

EssenCES Subscale	Mean (*SD*) Current Study (N = 76)	Mean (*SD*) Howells & Stacey (2007; N = 13)	Mean (*SD*) Howells et al. (in press; N = 80)
Experienced Safety (ES)	14.34 (4.05)	9.8 (5.7)	9.32 (4.84)
Patient Coherence (PC)	10.53 (4.00)	7.5 (5.7)	8.89 (4.20)
Therapeutic Hold (TH)	13.07 (3.72)	9.8 (6.0)	9.81 (3.97)
EssenCES Total Score	37.92 (9.04)	27.10[5]	28.29 (8.23)

[5] The SD for this statistic was unavailable

3.2.2.3 Psychosis Attachment Measure (PAM)

Table 4 presents the means for the PAM in this study compared to those obtained in the Berry et al.'s (2008b) study.

Table 4

Mean scores of PAM scores across two studies

Psychosis Attachment Measure (PAM) Dimension	Mean (*SD*) (Current study; N = 76)	Mean (*SD*) (Berry, Barrowclough & Wearden, 2008b, N = 96)
Anxiety	.92 (.64)	.93 (0.64)
Avoidance	1.45 (.51)	1.57 (.61)

As shown, the results of the current study were very similar to those obtained by Berry et al. (2008b). Interestingly, Berry's study investigated an outpatient sample with psychosis but similarly found a predominance of individuals scoring higher on attachment avoidance and much lower on the attachment anxiety.

3.3 Tests for normality, linearity and homoscedasticity

The main variables were checked for violations of the assumptions underlying parametric statistics. Normality was explored using the Kolmogorov-Smirnov test (Appendix K). The results for most of the main variables (service attachment score, EssenCES ward climate score, and attachment avoidance score) were non-significant, supporting normal distribution. However, the scores on the attachment anxiety dimension of the PAM were not normally

distributed. The presence of an outlier on the attachment anxiety dimension of the PAM was investigated but given that the 5% trimmed mean for the anxiety score was similar to the mean value, this score was retained. The histogram of the attachment anxiety dimension scores revealed a positive skew. This was successfully transformed using a square root transformation (Pallant, 2007; Output is shown in Appendix L). The transformed attachment anxiety dimension was used in subsequent analyses. Inspection of the scatterplots for all the main variables revealed linear relationships and no violation of the assumption of homoscedasticity.

3.4 Pearson's Product-moment correlations

Table 5 presents the Pearson's product-moment correlations between the inpatients' demographic details and the main measures used in the current study (a full correlational matrix can be found in Appendix M for reference).

Table 5

Inter-correlations of patient demographics and main variables in the study

	Age of inpatient	Length of stay
SAQ	.02	.05
EssenCES Total	.02	.09
AnxietyT Dimension	.04	.16
Avoidant Dimension	.03	.04
Negative Affect Total	.05	-.17

Note: SAQ = Service Attachment Questionnaire; AnxietyT = Anxiety Dimension transformed

As shown in Table 5 the main inpatient demographics of age and length of stay did not significantly correlate with any of the main measures used in the current study. Table 6 presents the inter-correlations between the main variables in the study.

3.5 Differences between ethnic groups

Given the small number of participants in each of the non-White British ethnic groups, it was decided to collapse the number of categories of the ethnicity variable into "White British" and "Other ethnicity" in order to check for differences between the ethnic groups on the major variables. A one-way between-groups multivariate analysis of variance was performed to investigate ethnicity differences in the three dependent variables of service attachment, attachment style and ward climate perceptions. The independent variable was ethnicity. Preliminary assumption testing was conducted to check for normality, linearity, univariate

and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted. There was no statistical difference between "White British" and "Other ethnicity" on the combined dependent variables of service attachment, attachment style and ward climate perceptions, $F(3, 72) = 1.55, p = .21$; Wilks' Lambda = .94; partial eta squared = .06.

3.6 Research Hypothesis 1

There will be a significant association between service attachment (as measured by the Service Attachment Questionnaire; SAQ; Goodwin et al., 2003) and perception of the ward climate (as measured by the EssenCES ward climate measure; Schalast et al., 2008) with higher scores on service attachment being associated with higher scores on ward climate perceptions.

The relationship between service attachment (as measured by the SAQ) and perception of the ward climate (as measured by the EssenCES) was investigated using a Pearson's product-moment correlation. There was a strong statistically significant positive correlation between the two variables, $r = .611$, $n = 76$, $p < .01$ (one-tailed; see Appendix N for output). Higher scores on the EssenCES (indicating better perceptions of the ward climate) were therefore associated with higher scores on the SAQ, indicating a stronger service attachment. This supports the hypothesis that higher scores on service attachment are associated with higher scores on ward climate perceptions.

3.7 Research Hypothesis 2

There will be a significant association between service attachment (as measured by the SAQ) and attachment anxiety and avoidance (as measured by the Psychosis Attachment Measure; PAM; Berry et al., 2006) with higher levels of attachment anxiety and avoidance (indicated by higher scores) being associated with poorer service attachment.

The association between service attachment and attachment avoidance revealed a statistically significant negative correlation between the two variables, $r = -.239$, $n = 76$, $p < .025$ (one-tailed; bonferroni adjusted alpha level (0.05/2 = 0.025); see Appendix O for output), with higher scores on attachment avoidance being associated with lower scores on the SAQ (indicating a weaker service attachment). The association between service attachment (as measured by the SAQ) and attachment anxiety was not significant, $r = -.174$, $n = 76$, $p > .05$ (one-tailed). These results support the hypothesis that higher scores on the attachment measure, in relation to attachment avoidance, were associated with lower scores on service attachment.

3.8 Research Hypothesis 3

There will be a significant association between attachment anxiety and avoidance (as measured by the PAM) and ward climate perceptions (as measured by the EssenCES) with higher levels of attachment anxiety and avoidance being associated with poorer perceptions of the ward climate.

There was a statistically significant negative correlation between the perception of ward climate and attachment avoidance (r = -.266, n = 76, p < .025; one-tailed; bonferroni adjusted alpha level (0.05/2 = 0.025); see Appendix P for output), with higher scores on attachment avoidance being associated with lower scores on the EssenCES (indicating a poorer perception of the WA). The association between perception of ward climate (as measured by the EssenCES) and attachment anxiety was not statistically significant (r = -.187, n = 76, p > .025).

3.9 Research Hypothesis 4

An inpatient's perception of the ward climate (as measured by the EssenCES) or their attachment dimension score (as measured by the PAM) will contribute more to their attachment to a service (as measured by the SAQ), after controlling for negative affect (as measured by the Positive and Negative Affect Schedule; PANAS; Watson, Clark & Tellegen, 1988).

A hierarchical multiple regression analysis was used to assess the ability of scores on the attachment avoidance dimension of the PAM, and scores on the EssenCES ward climate measure to predict service attachment (measured by the SAQ), after controlling for the influence of negative affect (see Appendix Q for output). The correlation between service attachment and attachment anxiety was not significant so this variable was not entered (see Appendix O). The data were assessed for multicolliniearity and given that no variables were highly correlated, no violation of this multivariate assumption was found. Potential outliers in the data were also explored by checking for extreme scores in the data, with no outliers identified. In addition, the residuals scatterplot, which was generated as part of the multiple regression procedure, revealed no violation of normality, linearity or homoscedasticity. Table 6 shows the results of the hierarchical multiple regression.

Negative affect was entered at Step 1, explaining 32% of the variance in service attachment. After entry of the attachment avoidance and ward climate scores at Step 2 the total variance explained by the model as a whole was 53%, F (3, 72) = 27.22, $p < .001$). Attachment avoidance and ward climate perceptions explained an additional 21% of the variance in service attachment, after controlling for negative affect, R squared change = .21, F change (3,

72) = 16.19, $p < .001$). In the final model, only the EssenCES ward climate score was statistically significant (beta = .471, $p < .001$).

Table 6

Hierarchical multiple regression predicting service attachment among inpatients with a diagnosis of psychosis (n = 76)

	Betas	
	Step 1	Step 2
Negative Affect	-.566***	-.412***
Avoidant Attachment Dimension Score		-.045
EssenCES Ward Climate Total		.471***
Total R^2 *(adjusted* R^2*)*	.321 (.312)	.531 (.512)
R^2 change	.321	.211
F for R^2 change	34.93***	16.196***
Total *F*	34.93***	27.224***

*** $p < .001$

3.10 Research Hypothesis 5

Specific aspects of the ward climate (as measured by the EssenCES) will be more highly associated with service attachment (as measured by the SAQ).

To explore the association between service attachment and the subscales of the ward climate measure, zero-order correlations and partial correlations were carried out controlling for negative affect. These are presented in Table 7.

Table 7

Partial correlations of EssenCES subscales PC, ES and TH, controlling for negative affect (NA)

	SAQ (not controlling for NA)	SAQ (controlling for NA)
Patient Coherence (PC)	.330*	.301*
Experienced Safety (ES)	.418**	.252
Therapeutic Hold (TH)	.675**	.716**

* $p < .025$, ** $p < .0005$ (Bonferroni adjustment 0.05/2 = 0.025 and 0.01/2 = 0.005)

Partial correlations were used to explore the relationship between service attachment (as measured by the SAQ) and perceptions of various aspects of the ward climate (as measured by the EssenCES), while controlling for scores of negative affect (as measured by the PANAS) (see Appendix R for output). Whilst controlling for negative affect, there was a positive partial correlation between service attachment and Patient Coherence ($r = .301, p < .02$; bonferroni adjusted alpha level (0.05/3 = 0.02) and Therapeutic Hold ($r = .716, p < .02$), with high scores on service attachment being associated with higher scores on these two

subscales. An inspection of the zero order correlation for PC ($r = .330, p < .02$) and TH ($r = .675, p < .001$), suggested that controlling for negative affect had very little effect on the strength of the relationship between these two variables. However, after controlling for NA, ES became non-significant ($r = .252, p > .02$).

The relationship between the two statistically significant subscales of the EssenCES (PC and TH) and service attachment, whilst controlling for negative affect, was investigated using hierarchical multiple regression (see Appendix S for Output). Table 9 shows the results of the hierarchical multiple regression. Negative affect was entered at Step 1, explaining 32% of the variance in service attachment. After entry of Patient Coherence and Therapeutic Hold scores at Step 2 the total variance explained by the model as a whole was 66.9%, F (3, 72) = 48.52, $p < .001$). The two subscales explained an additional 35% of the variance in service attachment, after controlling for negative affect, R squared change = .35, F change (3, 72) = 37.89, $p < .001$). In the final model, only one of the EssenCES subscales were statistically significant, with the Therapeutic Hold recording a higher beta value (beta = .589, p < .001).

Table 8

Hierarchical multiple regression predicting service attachment from EssenCES subscale scores (n = 76)

	Betas	
	Step 1	Step 2
Negative Affect	-.566***	-.468***
Patient Coherence (PC)		.005
Therapeutic Hold (TH)		.596***
Total R^2 *(adjusted* R^2*)*	.321 (.312)	.669 (.655)
R^2 change	.321	.348
F for R^2 change	34.93***	37.89***
Total *F*	34.93***	48.52***

** $p < .01$, *** $p < .001$

As shown in Table 8, scores on the Therapeutic Hold (TH) subscale of the EssenCES was by far the strongest predictor of service attachment (beta = .59), along with negative affect (beta = -.47), accounting for a significantly high proportion of the variance in service attachment. The Patient Coherence (PC) subscale score did not significantly contribute to the variance in service attachment.

4. DISCUSSION

The purpose of the current study was to explore whether inpatients' perceptions of the WA, or their levels of attachment anxiety and avoidance, were more predictive of service attachment, whilst controlling for negative affect. The researcher gathered data via the administration of four questionnaires to inpatients with a diagnosis of psychosis (N = 76) across four medium secure units (MSUs). Notably, inpatients' age, ethnicity and the duration of their stay had no association with service attachment, attachment anxiety and avoidance, or ward climate perceptions. In the following sections, the results of the main analyses are discussed.

4.1 Service attachment and ward climate

In terms of service attachment and perceptions of ward climate, the results highlighted a strong positive association between these two variables, with higher scores on ward climate perceptions being associated with higher service attachment scores. This supports Research Hypothesis 1 that higher scores on the ward climate measure would be associated with higher scores on the service attachment measure.

This supports the literature that emphasizes that environments perceived by inpatients more favourably can potentially play a key role in services' ability to provide a "secure base" (Adshead, 1998), which has been identified as central to a good service attachment (Goodwin et al., 2003), and which the attachment literature suggests should be the prime function of mental health services (Holmes, 2004a). Given that inpatients with psychosis are sensitive to their environment (Isohanni, 1980), it is an encouraging finding that the ward climate can

have a positive influence on their service attachment, particularly since more favourably perceived ward environments can contribute to better patient outcomes (Bola & Mosher, 2003; Christenfeld et al., 1989; Cohen & Khan, 1990; Fan et al., 1994; Jin, 1994; Kellam et al., 1967; Mosher et al., 1995).

If a service can provide a sense of security and containment through the provision of a "secure base", by means of an optimal ward environment, then it may provide a "corrective" experience for inpatients (Schuengel & Van Ijzendoorn, 2001, p. 314) and have a positive impact on their prognosis (Lenroot et al., 2003). This is particularly important for inpatients, whom during times of illness and distress may seek proximity to attachment figures (Bowlby, 1977).

4.2 Service attachment and attachment avoidance and anxiety

Of the attachment dimensions measured by the PAM, attachment avoidance was significantly negatively correlated with service attachment indicating that a higher score on attachment avoidance was associated with a lower score on service attachment, thus supporting Research Hypothesis 2 that higher levels of attachment avoidance would be associated with poorer service attachment. This finding is supported by the literature which highlights that inpatients with psychosis in particular have higher levels of avoidant attachment (Dozier et al., 1991), and poorer service attachment compared to patients receiving other services (Goodwin, 2003). This finding is relevant since it is inpatients with insecure attachment histories that experience less satisfaction with the services they receive (Rossberg et al., 2006).

Attachment anxiety however did not significantly correlate with service attachment, which may be indicative of the under-representativeness of this attachment dimension in this sample, or it may be due to the tendency of this patient group to find the help from others as insufficient for their needs (Hunter & Maunder, 2001). This finding does not support Research Hypothesis 2 that higher levels of attachment anxiety will be related to poorer service attachment.

Despite this, the association between attachment avoidance and service attachment highlights that an increased awareness of an inpatient's attachment dimension could potentially inform staff as to this patient group's needs (Berry et al., 2008b), and potentially prevent abnormal attachments being re-enacted in the ward environment (Adshead, 2004; Holmes, 2004a). This is valuable given that those with attachment avoidance tend to be overlooked by staff as they rarely present as a management problem (Hunter & Maunder, 2001). However, as a patient group, they also tend to ignore distress in themselves and others, which can potentially be a barrier to treatment or seeking help (Dozier, 1990).

4.3 Attachment avoidance and anxiety and ward climate perceptions

With respect to the association of the attachment dimensions and ward climate perceptions, there was a significant and negative association between ward climate and attachment avoidance, with higher scores on attachment avoidance being associated with lower scores on ward climate. This supports Research Hypothesis 3 that higher levels of attachment avoidance that higher levels of attachment avoidance would be associated with poorer perceptions of the ward climate. However, there was no statistically significant association between ward climate perceptions and attachment anxiety, therefore the hypothesis that

higher levels of attachment anxiety would be related to poorer perceptions of the ward climate can not be supported. This is an area for further exploration but may similarly be indicative of the insufficient number of inpatients with attachment anxiety in the sample as already discussed.

Nevertheless, the result relating to attachment avoidance supports the idea that individuals with attachment avoidance are more likely to discount the severity of their problems and distance themselves from others (Wei et al., 2005) therefore it is expected that these individuals would not feel as positive about their environment or those around them anyway. However, if this was the case then the fact that individuals with attachment anxiety are more emotionally reactive to others (Wei et al., 2005), the hypothesis relating to increased attachment anxiety and poorer perceptions of the ward environment should have been supported.

Nonetheless, having an awareness of inpatient attachment styles in relation to how they perceive the ward climate could be of importance given the wide range of literature that suggests that those with a diagnosis of psychosis predominantly have an insecure attachment style (Dozier et al., 1991; Timmerman & Emmelkamp, 2006), and for these individuals the psychosocial environment is thought to be very influential in the course of their condition (Holmes, 2004a) and these individuals tend to experience less satisfaction with services (Rossberg et al., 2006).

4.4 Ward climate perceptions and attachment avoidance as predictors of service attachment

The results from the current study highlighted that inpatient perceptions of the ward climate were more contributory to their service attachment than their level of attachment avoidance, after controlling for negative affect, supporting Research Hypothesis 4 that either attachment anxiety and avoidance or perceptions of the ward climate would be more contributory to service attachment.

This result suggests that environmental factors were perceived as more influential than inpatients' attachment systems, when predicting service attachment. This implies that if services want to promote better service attachment, one way could be to focus on modifying the ward climate to better suit the needs of this inpatient group.

4.4.1 Ward climate subscales and service attachment

Furthermore, it was revealed that the "Therapeutic Hold (TH)" subscale of the ward climate measure, which predominantly captures the depth and influence of staff support, was more predictive than "Patient Coherence (PC)", in constructing a better service attachment. This supports the assertion that the therapeutic relationship between staff and patients is the most important element in mental health care (McGuire et al., 2001). This finding also highlights that it is the depth of the relationship, as measured by TH subscale of the ward climate measure, rather than just the presence of the relationship as the service attachment measure would collate, that is important when assessing what is important in relation to an inpatient's service attachment, which has been highlighted in previous studies (Cardell & Pitula, 1999). These findings are also in line with many study findings that state a ward environment with

high staff support is optimal for inpatients with a diagnosis of psychosis (Friis, 1986; Jansson & Eklund, 2002; Smith, 2000). Previous literature has also highlighted that psychiatric staff who function as caregivers may play an important role in providing a "secure base" by providing containment (Adshead, 1998) for patients whose attachment needs are activated during times of distress (Ma, 2007). Having positive staff relationships may therefore avoid damage resulting from the deprivation of a secure base and may even provide a "corrective experience" for inpatients (Schuengel & Van Ijzendoorn, 2001, p. 314). Being aware of the factors that contribute to a safe and therapeutic environment is therefore essential if services are to focus on meeting patients' needs given their limited resources. At the very least, collecting basic information about inpatients should help develop and inform service planning (Madan, 2001).

Interestingly, when negative affect was controlled for, the "Experienced Safety (ES)" subscale of the ward climate measure was no longer significant, indicating less of an association between feeling safe on the ward and service attachment. This may be indicative of the fact that staff are effective at managing high risk situations on the ward, which is in line with the findings from the Quality Network for Forensic Mental Health Services Annual Report 2007-2008 which stated that relational security scored least in terms of fully meeting medium security standards (Painter & Tucker, 2008). This indicates that services are more effective at maintaining the physical and procedural aspects of security, as defined by the Royal College of Psychiatrists' Standards for Medium Secure Units (MSUs; Tucker & Hughes, 2007).

4.4.2 The influence of negative affect

An important finding was the strong negative association between negative affect and service attachment and ward climate perceptions, as observed in the hierarchical multiple regression (see Table 6). This variable was controlled for given the strong association it has with inpatients with psychosis (Barry, Lakey & Orehek, 2007; Blanchard et al., 1998), however this appeared to have a more powerful interaction with service attachment and ward climate perceptions. Given that inpatients' state negative affect was measured, it may be that increased negative affect at the time of completing the measures may have led to more negative reporting on the service attachment and ward climate measures. This simple idea, that if an inpatient is feeling low, as represented by the state affect measure, then they will generally report lower on other measures also, is an important consideration when using self-report measures with inpatients. This finding also supports the need for assessing ward climate at regular time intervals, e.g. every six months, to assess the validity of findings over time.

Notably, the association between service attachment and attachment avoidance was no longer significantly associated when negative affect was controlled for. This weak influence of attachment avoidance on service attachment may have been due to the lack of depth inherent within the attachment measure used within the current study. Similarly, this lack of association between service attachment and attachment avoidance may have been related to the variance in scores due to the heterogeneity of the participants taking part whom were resident on different wards and whom may have been experiencing differing levels of distress. Since many of the participants had high levels of attachment avoidance, the maladaptive affect regulation strategies that those with avoidant attachment styles tend to

exhibit, which is to emotionally "cut-off" (Wei et al., 2005), may have also impacted on the results. Perhaps this tendency to discount the severity of their distress and distance themselves from other people (Wei et al., 2005) means that this group of inpatients pay lesser attention to their environment or they tend to negate the distressing aspect of a service, as they do with other emotionally distressing information. However, if this were the case then it would be expected that the findings would show a stronger association between ward climate and attachment anxiety, which would be expected given that those with higher attachment anxiety tend to be more emotionally reactive to their environment and those around them (Wei et al., 2005). However, a stronger association was found between ward climate and attachment avoidance, which may be explained by the under-representativeness of those with attachment anxiety.

Despite this, by identifying the mediators that distinguish between specific attachment dimensions, clinicians may be able to develop particular interventions that specifically meet the needs of those with specific attachment dimension representations and potentially reduce the number of negative interactions that can be felt by those with more insecure attachments (Wei et al., 2005).

4.5 Limitations of the study

One of the main limitations of the study concerned the potential overlap between the service attachment measure and the ward climate measure. Despite the strong association between negative affect and service attachment, there was still a significant association between service attachment and ward climate perceptions after controlling for negative affect, indicating that there was a strong relationship between the two variables anyway. As already

discussed, this association may be due to the fact that the environment is an important aspect in determining service attachment. However, it is also worth noting that the service attachment and ward climate measures may be perceived as measuring some similar underlying constructs, or it may be viewed that "Therapeutic Hold" is the same thing as service attachment and therefore both would present as having a strong association with each other anyway. As already discussed however, these measures were viewed as being mutually exclusive from each other despite both having a focus on relational aspects of the environment. This is because the ward climate measure was considered as assessing the depth of the staff patient relationship whereas the service attachment measure was viewed as measuring the presence of the staff patient relationship. This dilemma raises questions about the use of various measures in this type of research study and highlights the consideration of other types of methodology in collecting information from inpatients, e.g. combining self-report measures with observational methods, specifically ward observations, which are effective at measuring relationships.

Despite supporting previous findings and uncovering some relevant associations, it is also important to mention that the data collected was cross-sectional and therefore the findings can only be speculatory. The self-report nature of the measures, combined with sensitive questioning about inpatient services, may also have carried limitations by contributing to some self-reporting biases (Berry et al., 2008b). However, this bias was limited by interviewing inpatients in a confidential environment whilst reiterating that the researcher was not connected to the establishment. Highlighting that confidentiality and anonymity would be maintained at all times also helped alleviate the risk of bias. In addition, given the relative brevity of the measures, responses were constrained by the questions asked, and did not allow for further exploration in responses. Given the willingness of participants to expand

on many of their responses, this should certainly be a consideration for future research. It is also questionable if the attachment measure completed by inpatients was well equipped enough to capture the "roots and depths of their attachment experience" (Schuengel & Van Ijzendoorn, 2001, p. 316), especially given that affective measurement can be subject to potential accuracy problems when people are asked to make retrospective judgements (Gray & Watson, 2007). However, assessing patient views via self-report measures can be a quick and inexpensive way of gaining insight into patterns of maladaptive behaviours, although work is needed before it is fully understood what self-report scales measure (Fraley & Phillips, 2008).

Further limitations were identified in terms of the services explored. Despite the current study being conducted across four similar sites, given the differences in service provision and philosophies of care, it may be difficult to generalise findings to other medium secure services. In addition, not only do other services differ in what they offer, they also differ in their populations, with some offering specialised services for other groups such as women (Davies, 2004), for example, the Women's Enhanced Medium Secure Service (WEMSS; Rutherford & Duggan, 2008), as well as for people with learning disabilities (Bailey & Cooper, 2007; Davies, 2004).

Another limitation concerned the distress levels of those deemed "well enough" to have capacity to consent to take part in the current study. These distress levels may have been lower than those excluded from the study by their RMOs (for lacking capacity to consent), thus under-representing the patients who were more acutely psychotic. In addition, it is felt that the inclusion criteria of three months stay (as a minimum) may not have been long enough for inpatients to form a reasonable attachment to the service. Given that on

admission, inpatients are likely to be experiencing an acute phase of their illness, where they are the most unwell (Quirk & Lelliot, 2001), they will most probably lack the capacity for self-reflection, and it is therefore unlikely that they will be able to focus on attaching to a service.

4.6 Clinical implications

Notwithstanding the limitations outlined above, the evidence points to the influence of the ward climate in predicting service attachment in inpatients with psychosis. This highlights that creating a more optimal environment for those with psychosis may be sufficient to improve their service attachment, which may have positive implications in terms of treatment adherence and improved outcomes. In addition, research has shown that the ward environment can be changed for the better relatively quickly (Smith, Gross & Roberts, 1996), emphasizing the accessibility of this endeavour. Furthermore, the finding relating to the importance of the depth of the staff-patient relationship emphasises the importance of regular supervision and staff support in improving the quality of psychological care in inpatient services (Holmes, 2004a), particularly if the literature has highlighted that staff may serve as temporary attachment figures to inpatients (Goodwin, 2003). This emphasises that the solution is not to simply employ more staff, but to free up nurses time so that they can interact more therapeutically with patients and spend less time "form-filling" (Samarasekera, 2007). The need for further staff training is also essential if staff are to improve so that they are "not just giving tablets" (Samarasekera, 2007). This idea of staff training in engaging more therapeutically with patients is very important and has been shown to be successful (Nesset et al., 2009). Staff training is especially important since qualities essential to a good

therapeutic relationship include empathy and genuineness, which do not come instinctively to nurses (Moyle, 2003).

The finding that avoidant attachment is associated with a poorer attachment to a service, adds to our understanding of how inpatients' attachment needs can be a way of improving services for this vulnerable group, and should be considered in the development of mental health care policies (Marrone, 1998). The results emphasize the importance of appreciating what an attachment perspective can bring to services (Ma, 2007) and should always be consideration for institutions caring for those who are no longer able to access their existing attachment networks (Schuengel & Van Ijzendoorn, 2001). A key dilemma however, is how to relate attachment theory to clinical practice (Holmes, 2008b) since "fostering a psychological approach to in-patient care will require a shift in culture, management and training" (Holmes, 2002: p383). In relation to this, is unrealistic to expect staff to be trained in psychological therapies on the ward but the least that should be encouraged is the capacity to build a therapeutic alliance with patients, self-awareness and reflective practice, and specific skills to be developed when working with those with psychosis in an in-patient setting (Holmes, 2002). Attachment histories are communicable to staff (Hunter & Maunder, 2001) and knowledge of inpatient attachment dimensions could be incorporated into training and inform staff support strategies. For example, staff could be informed that those with an avoidant attachment style find it hard to engage in treatment (Dozier, 1990), and successful management of these individuals requires an unintrusive approach, and a respect for their need for independence (Hunter & Maunder, 2001). This is important information to communicate since those with avoidant attachment styles do not often present a problem to services because they are undemanding and do not attract attention (Hunter & Maunder,

2001), however they are more likely than other patients to experience more severe positive and negative symptoms of schizophrenia (Ponizovsky, et al. 2007).

Given the highlighted importance of attachment in services, it is important to think about how this can be applied practically. The development and use of various measures, such as the SAQ and the PAM, may go some way in practically measuring levels of attachment, and despite their limitations may provide a starting point for exploring attachment in forensic mental health services further and communicating this to staff.

4.7 Future Research

In terms of future research, it is felt that exploring the concepts of ward climate and attachment in forensic mental health services is required, particularly taking into account the influence of negative affect. If services in future are to provide a "secure base" for inpatients with psychosis and act as an attachment figure, further emphasis on which aspects could provide this security (Berry et al., 2007) should be considered. In addition, if institutions and staff are able to offer a "secure base", it is still unclear what it would take for an inpatient to "accept this offer" (Schuengel & Van Ijzendoorn, 2001, p. 305). This may provide a rationale for conducted more qualitative research as a way of exploring this idea further.

Although this research highlighted associations between attachment avoidance, ward climate perceptions and service attachment, it would be interesting to explore attachment anxiety further, in order to assess how results for those with higher levels of attachment anxiety may differ from those with higher levels of attachment avoidance.

Future research may also wish to investigate the impact of ward climate perceptions and attachment style on service attachment over a longer period in order to assess the validity of the findings in the current study over time. In addition, a focus on a smaller sample of inpatients that are more acutely psychotic, in order to explore whether these patients have very different needs compared to those who demonstrated capacity to consent, would add to the current research literature. With specialist services leading to more homogenous patient groups, this type of purposeful research may add to the development of more focused therapies and ward milieus (Davies, 2004). However, involvement of these individuals in any type of research would need careful thought and consideration around ethical issues.

In addition, exploring the ideas in this current study with female inpatients would be valuable, given the differences in needs between male and female patients, e.g. in treatment (Ramsay, Welch, & Youard, 2001). Exploration and continuation of this research in other settings, such as community settings, low secure units, and high secure units, may also provide further insight into whether these results are generalisable to other types of service.

4.8 Conclusions

The current study has demonstrated that perceptions of ward climate and attachment avoidance are associated with an inpatient's attachment to the service. Moreover, perceptions of ward climate, in particular aspects relating to staff support, are more predictive of a good service attachment. This supports the view that "there is no patient untreated by his environment" (Stanton, 1964, p. vi) and that the relationship between staff and patients is the most fundamental aspect within mental health care (McGuire et al., 2001). Improving inpatient attachment to a service may indicate that the service is, in some way, meeting the

provision of a "secure base for patients to move to recovery and beyond" (Adshead, 1998, p. 68), which the literature has highlighted, can have a positive effect on inpatients. Insights gained from the current study can therefore assist services in developing a ward climate that is better suited to meet the need of those with psychosis whilst maintaining a good philosophy of care.

Importantly, the study has also raised the issue of including a measure of negative affect within any research involving inpatients with a diagnosis of psychosis given the strong association this variable had with the measures in the current study. This research also highlighted the importance of services considering the relevance of attachment, and the ways in which this knowledge about inpatients can be communicated to staff in a meaningful way. Currently, despite the present measures lacking significant depth of responses, they are relatively quick and easy to use, and further implementation could provide services with a good indication as to whether they are currently meeting the needs of this vulnerable patient group.

REFERENCES

Adshead, G. (1998). Psychiatric staff as attachment figures. Understanding management problems in psychiatric services in the light of attachment theory. *British Journal of Psychiatry, 172*, 64-69.

Adshead, G. (2001). Attachment in mental health institutions: A commentary. *Attachment and Human Development, 3* (3), 324-329.

Adshead, G. (2004). Three degrees of security. Attachment and forensic institutions. In Pfäfflin, F. & Adshead, A. (eds). *A Matter of Security. The Application of Attachment Theory to Forensic Psychiatry and Psychotherapy.* New York: Jessica Kingsley Publishers.

Bailey, N.M. & Cooper, S.A. (2007). The current provision of specialist health services to people with learning disabilities in England and Wales. *Journal of Intellectual Disability Research, 41* (1), 52-59.

Barker, D.A., Shergill, S.S., Higginson, I., Orrell, M.W. (1996). Patients' views towards care received from psychiatrists. *British Journal of Psychiatry, 168*, 642-646.

Barry, R., Lakey, B. & Orehek, E. (2007). Links among attachment dimensions, affect, the self, and perceived support for broadly generalised attachment styles and specific bonds. *Personality and Social Psychology, 33* (3), 340-353.

Bellack, A.S., Mueser, K.T., Wade, J., Sayers, S. & Morrison, R. (1992). The ability of schizophrenics to perceive and cope with negative affect. *British Journal of Psychiatry, 160*, 473-480.

Berry, K., Wearden, A., Barrowclough, C., & Liversidge, T. (2006). Attachment styles, interpersonal relationships and psychotic phenomena in a non-clinical student sample. *Personality and Individual Differences, 41*, 707-718.

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. *Social Psychiatry and Psychiatric Epidemiology, 42*, 972-976.

Berry, K. et al. (2008a). Staff attachment styles: A pilot study investigating the influence of adult attachment styles on staff psychological mindedness and therapeutic relationships. *Journal of Clinical Psychology, 64* (3), 355-363.

Berry, K. Barrowclough, C., Wearden, A. (2008b). Attachment theory: A framework for understanding symptoms and interpersonal relationships in psychosis. *Behaviour Research and Therapy, 46*, 1275-1282.

Blanchard, J., Mueser, K.T. & Bellack, A.S. (1998). Anhedonia, positive and negative affect, and social functioning in schizophrenia. Schizophrenia Bulletin, 24 (3), 413-424.

Bola, J.R. & Mosher, L.R. (2003). Treatment of acute psychosis without neuroleptics: Two year outcomes from the Soteria Project. *The Journal of Nervous and Mental Disease, 191* (4), 219-229.

Bowlby, J. (1977). *The making and breaking of affectional bonds. I. Aetiology and psychopathology in the light of attachment theory.* An expanded version of the Fiftieth Maudsley Lecture, delivered before the Royal College of Psychiatrists, 19 November, 1976. *British Journal of Psychiatry, 130*, 201-210.

Bowlby, J. (1980). Attachment and loss. In *Loss, Vol. 3*. New York: Basic Books.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: an integrative overview. In J. A. Simpson, & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). London: Guilford Press.

Cardell, R. & Pitula, c. (1999). Suicidal inpatients and perceptions of therapeutic and non-therapeutic aspects of constant observation. *Psychiatric Services, 50* (8), 1066-1070.

Carlin, P. Gudjonsson, G. & Yates, M. (2005). Patient satisfaction with services in medium secure units. *The Journal of Forensic Psychiatry and Psychology, 16* (4), 714-728.

Care Quality Commission (2008). *Count me in. Results of 2008 national census of inpatients in mental health and learning disability services in England and Wales.* Commission for Healthcare Audit and Inspection.

Christenfeld, R., Wagner, J., Pastva, G., & Acrish, W. P. (1989). How physical settings affect chronic mental patients. Psychiatry Quarterly, 60 (3), 253-264.

Cohen, S., & Khan, A. (1990). Antipsychotic effect of milieu in the acute treatment of schizophrenia. *General Hospital Psychiatry, 12* (4), 248-251.

Coid, J., Kahtan, N., Gault, S., & Jarman, B. (2000). Ethnic differences in admissions to secure forensic psychiatry services. *British Journal of Psychiatry, 177*, 241-247.

Coid, J., Kahtan, N., Gault, S. Cook, A., & Jarman, B. (2001). Medium secure forensic psychiatry services: Comparison of seven English health regions. *British Journal of Psychiatry, 178*, 55-61.

Concoran, C., Walker, E., Huot, R., Mittal, V., Tessner, K., Kesfler, L., et al. (2003). The stress cascade and schizophrenia: aetiology and onset. *Schizophrenia Bulletin*, 29, 671-692.

Curtin , F. & Schulz, P. (1998). Multiple correlations and bonferroni's correction. *Biological Psychiatry, 44* (8). 775-777.

Dale, C., & Gardner, J. (2001). Security in forensic environments: Strategic and operational issues. In C. Dale, T. Thompson, & P. Woods. (Eds.). *Forensic Mental Health: Issues in Practice*. Oxford, Elsevier Health Sciences, 251-274.

Davies, S. (2004). Secure psychiatric services. In P. Campling, S. Davies, & G. Farquharson (2004). *Toxic institutions. From toxic institutions to therapeutic environments: Residential settings in mental health services* (pp. 20-31). London: Gaskell Press.

Davison, S. (2004). Specialist forensic mental health services. *Criminal Behaviour and Mental Health, 14*, S19-S24.

Department of Health (2001). The Mental Health Act 1983: Guidance for general practitioners – medical examinations and medical recommendations under the Act. Retrieved from the Web on 10th January 2009. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4008834

Department of Health (2002). *Mental Health Policy Implementation Guide: Adult Acute Inpatient Care Provision.* London: Jessica Kingsley Publishers.

Department of Health. (2005a). *Creating a patient-led NHS: delivering the NHS Improvements Plan.* London: Department of Health.

Department of Health (2005b). *New ways of working for psychiatrists: enhancing effective, person-centres services through new ages of working in multidisciplinary and multiagency contexts.* London: Department of Health.

Department of Health (2007). *Best Practice Guidance: Specifications for adult medium-secure services.*

Diamond, L., Hicks, A., Otter-Henderson, K. (2006). Physiological evidence for repressive coping among avoidantly attached adults. *Journal of Social and Personal Relationships, 23* (2), 205-229.

Dozier, M. (1990). Attachment organization and treatment use for adults with serious psychopathological disorders. *Development and Psychopathology, 2*, 47-60.

Dozier, M., Stevenson, A.L., Lee, S.W., & Velligan, D.I. (1991). Attachment organisation and familial over involvement for adults with serious psychopathological disorders. *Development and Psychopathology, 3*, 475-489.

Dunn, L.B., Lindamer, L.A., Palmer, B.W., Schneiderman, L.J. & Jeste, D.V. (2001) Enhancing comprehension of consent for research in older patients with psychosis: a randomised study of a novel consent procedure. *American Journal of Psychiatry, 158*, 1911-1913.

Dziopa, F. & Ahern, K. (2009). What makes a quality therapeutic relationship in psychiatric/mental health nursing: A review of the research literature. The Internet Journal of Advanced Nursing Practice, 10 (1).

Fan, Z., Huang, J., Wu, Q., & Jiang, S. (1994). Comparison of standard locked-ward treatment versus open-ward rehabilitation treatment for chronic schizophrenic patients. A one-year controlled trial in canton. *British Journal of Psychiatry Supplement, 24*, 45-51.

Farquharson, G. (2004). How good staff become bad. In P. Campling, S. Davies, & G.Farquharson (2004). *From toxic institutions to therapeutic environments: Residential settings in mental health services* (pp. 12-19). London: Gaskell Press.

Firth, W. (2004). Acute psychiatric ward: an overview. In P. Campling, S. Davies, & G. Farquharson (2004). *From toxic institutions to therapeutic environments: Residential settings in mental health services* (pp. 174-187). London: Gaskell Press.

Fonagy, P. et al. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. Journal of Consulting and Clinical Psychology, 64 (1), 22-31.

Fraley, R.C., & Phillips, R.L. (2008). Self-report measures of adult attachment in clinical practice. In H. Joseph, O. Berant, & E. Berant (Eds.). *Attachment Theory and Research in Clinical Work with Adults.* Guldford Press: Surrey, pp. 153-180.

Friis, S. (1986). Characteristics of a good WA. *Acta Psychiatrica Scandinavica, 74*: 469-473.

Ford, R., Durcan, G. Warner, L., Hardy, P. & Muijen, M. (1998). One day survey by the Mental Health Act Commission of acute adult psychiatric inpatient wards in England and Wales. *British Medical Journal, 317*, 1279-1283.

Forster, J. et al. (2003). The perceived expressed emotion in staff scale. *Journal of Psychiatric and Mental Health Nursing, 10*, 109-117.

Goodwin, I. (2003). The relevance of attachment theory to the philosophy, organisation, and practice of adult mental health care. *Clinical Psychology Review, 23*, 35-56.

Goodwin, I., Holmes, G., Cochrane, R., Mason, O. (2003). The ability of adult mental health services to meet clients' attachment needs: The development and implantation of the Service Attachment Questionnaire. *Psychology and Psychotherapy: Theory, Research and Practice, 76*, 145-161.

Gray, E.K. & Watson, D. (2007). "Assessing positive and negative affect via self-report". In J.A. Coan & J.J.B. Allen (eds.) *Handbook of Emotion Elicitation and Assessment*. Oxford: Oxford University Press.

Holmes, J. (1993). John Bowlby and attachment theory. London: Routledge.

Holmes, J. (2001). The Search for the Secure Base: Attachment Theory and Psychotherapy. Taylor and Francis: USA.

Holmes, J. (2002). Acute wards: problems and solutions creating a psychotherapeutic culture in acute psychiatric wards. *Psychiatric Bulletin, 26*, 383-385.

Holmes, J. (2004a). What can psychotherapy contribute to improving the culture on acute psychiatric wards? In P. Campling, S. Davies, & G. Farquharson (Eds.), From *toxic institutions to therapeutic environments: Residential settings in mental health services* (pp. 208-215). London: Gaskell Press.

Holmes, J. (2004b). From attachment research to clinical practice: Getting it together. In H. Joseph, O. Berant, & E. Berant (Eds.). *Attachment Theory and Research in Clinical Work with Adults.* Guldford Press: Surrey, 490-514.

Howe, V. et al. (2005). Competence to give informed consent in acute psychosis is associated with symptoms rather than diagnosis. *Schizophrenia Research, 77*, 211-214.

Howells, K. & Stacey, J. (2007). *Monitoring social climate on the Peaks Unit.* Paper presented to the Annual Conference of the British and Irish Group for the Study of Personality Disorder, Cambridge, March 2007.

Howells, K. et al. (in press). The EssenCES Measure of social climate: A preliminary validation and normative data in UK high secure hospital settings. Paper received via personal communication on 3rd April 2009.

Humphreys, N & Bree, A. (2004). Difficulties with attachment and separation: joining and leaving a therapeutic community. In P. Campling, S. Davies, & G. Farquharson (Eds.), *From toxic institutions to therapeutic environments: Residential settings in mental health services* (pp. 55-65). London: Gaskell Press.

Hunter, J.J., & Maunder, R.G. (2001). Using attachment theory to understand illness behaviour. *General Hospital Psychiatry, 23* (4), 177-182.

Isohanni, M. (1980). The influence of changes on treatment outcomes in a psychiatric ward. *Psychiatria Fennica*, 67-76.

Jansson, J., & Eklund, M. (2002). How the inner world is reflected in relation to perceived ward atmosphere among patients with psychosis. *Social Psychiatry and Psychiatric Epidemiology, 37* (11), 519-526.

Jeste, D.V., Depp, C.A., Palmer, B.W. (2005). Magnitude of impairment in decisional capacity in people with schizophrenia: An overview. *Schizophrenia Bulletin.*

Jin, Z. (1994). Effect of an open-door policy combined with a structured activity programme on the residual symptoms of schizophrenic in-patients. A six-month randomised controlled trial in Vanbian, Jilin. *British Journal of Psychiatry Supplement, 24*, 52-57.

Kellam, S. G., Goldberg, S. C., Schooler, N. R., Berman, A., & Shmelzer, J. L. (1967). Ward atmosphere and outcome of treatment of acute schizophrenia. *Journal of Psychiatric Research, 5* (2), 145-163.

Kennedy, H. (2001). Do men need special services? *Advances in Psychiatric Treatment, 7*, 93-101.

Kennedy, H.G. (2002). Therapeutic uses of security: mapping forensic mental health services by stratifying risk. Advances in Psychiatric Treatment, 8, 433-443.

Lelliot, P. (1996). Meeting the accommodation needs of the most severely mentally ill. *Journal of Interprofessional Care, 10* (3), 241-247.

Lenroot, R., Bustillo, J.R., Lauriello, J., & Keith, S.J. (2003). Integrated treatment of schizophrenia. *Psychiatric Services, 54* (11), 1499-1507.

Ma, K. (2007). Attachment theory in adult psychiatry. Part 2: Importance to the therapeutic relationship. *Advances in Psychiatric Treatment, 13*, 10-16.

Madan, A. (2001). Medium secure care and research in forensic psychiatry. *British Journal of Psychiatry, 178*, 5-6.

Marrone, M. (1998). *Attachment and interaction.* London: Jessica Kingsley.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50* (4), 370-396.

McGuire, R., McCabe, R., & Priebe, S. (2001). Theoretical frameworks for understanding and investigating the therapeutic relationships in psychiatry. *Social Psychiatry Psychiatric Epidemiology, 36*, 557-564.

Mental Capacity Act (2005). Part 1. Persons who lack capacity. Office of Public Sector Information. Retrieved from the Web on 10th January 2009. http://www.opsi.gov.uk/acts/acts2005/ukpga_20050009_en_1

Middleboe, T., Schjodt, T., Byrsting, K., Gjerris, A. (2001). Ward atmosphere in acute psychiatric in-patient care: patient's perceptions, ideals and satisfaction. *Acta Psychiatrica Scandinavica, 103*: 212-219.

Mikulincer, M., Shaver, P. & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion, 27* (2), 77-102.

Moos, R.H. & Houts, P.S. (1967). Assessment of the social atmospheres in psychiatric wards. *Journal of Abnormal Psychology, 73*, 595-604.

Mosher, L. R., Vallone, R., & Menn, A. (1995). The treatment of acute psychosis without neuroleptics: Six-week psychopathology outcome data from the Soteria Project. *International Journal of Social Psychiatry, 41* (3), 157-173.

Moyle, W. (2003). Nurse-patient relationship: A dichotomy of expectations. *International Journal of Mental Health Nursing, 12*, 103-109.

Mukherjee, E. & Foster, R. (2008).The Mental Capacity Act 2007 and capacity assessments: a guide for the non-psychiatrist. *Clinical Medicine, 8* (1), 65-69.

Nesset, M., Rossberg, J.I., Almvik, R. & Friis, S. (2009). Can a focused staff-training programme improve the ward atmosphere and patient satisfaction in a forensic psychiatric hospital? A pilot study. *Scandinavian Journal of Caring Science, 23*, 117-124.

Norton, K. (2004). Re-thinking acute psychiatric inpatient care. *International Journal of Social Psychiatry, 50*, 274-284.

Painter, K.. & Tucker, S. (2008). Quality Network for Forensic Mental Health Services Annual Report 2007-2008. Royal College of Psychiatrists. College Centre for Quality Improvement.

Oestich, I.H., Austin, S.F., Tarrier, N. (2007). Conducting research in everyday psychiatric settings: Identifying the challenges to meaningful evaluation. *Journal of Psychiatric and Mental Health Nursing, 14* (1), 55-63.

Pallant, J. (2005). *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows (Version 12)* (2nd Ed.). Berkshire, UK: Open University Press.

Petrocelli, J.V. (2003). Hierarchical multiple regression in counselling research: Common problems and possible remedies. *Measurement and Evaluation in Counselling and Development, 36*, 9-22.

Petrova, M., Dale, J. & Fulford, K.W.M. (2006). Values-based practice in primary care: easing the tensions between individual values, ethical principles and best evidence. *British Journal of General Practice, 56*, 703-709.

Ponizovsky, A.M., Nechamkin, Y., Rosca, P. (2007). Attachment patterns are associated with symptomatology and course of schizophrenia in male inpatients. *American Journal of Orthopsychiatry, 77* (2), 324-331.

Quirk, A. & Lelliot, P. (2001). What do we know about life on psychiatric wards in the UK? A review of the research evidence. *Social Science and Medicine, 53* (12), 1-10.

Quirk, A. & Lelliot, P. (2004). Users' experiences of in-patient services. In P. Campling, S. Davies, & G. Farquharson (2004), *From toxic institutions to therapeutic environments: Residential settings in mental health services* (pp. 45-54). London: Gaskell Press.

Ramsay, R., Welch, S. & Youard, E. (2001). Needs of women patients with mental illnesses. *Advances in Psychiatric Treatment, 7*, 85-92.

Rossberg, J. I., Melle, I., Opjordsmoen, S., & Friis, S. (2006). Patient satisfaction and treatment environment: A 20-year follow-up study from an acute psychiatric ward. *Nordic Journal of Psychiatry, 60* (2), 176-180.

Roth, A. & Fonagy, P. (1996). *What works for whom?* London: Guildford.

Rutherford, M. & Duggan, S. (2008). Forensic mental health services: facts and figures on current provision. *British Journal of Forensic Practice, 10* (4), 4-10.

Samarasekera, U. (2007). Staffing issues affecting care on acute psychiatric wards. *The Lancet, 370*, 119-120.

Schalast, N., Redies, M., Collins, M., Stacey, J., & Howells, K. (2008). EssenCES, a short questionnaire for assessing the social climate of forensic psychiatric wards. *Criminal Behaviour and Mental Health, 18*, 49-58.

Schuengel, C. & Van Ijzendoorn, M.H.V. (2001). Attachment in mental health institutions: A critical review of assumptions, clinical implications, and research strategies. *Attachment and Human Development, 3* (3), 304-323.

Smith, J., Gross, C. & Roberts, J. (1996). The evolution of a therapeutic environment for patients with long-term mental illness as measured by the Ward Atmosphere Scale. *Journal of Mental Health, 5*, 4, 349-360.

Smith, J. (2000). The healing elements of an environment for those with chronic psychosis. *Therapeutic Communities: The International Journal for Therapeutic and Supportive Organisations, 21* (1), 37-46.

Stanton, A.H. (1964). Foreword to Ego and Milieu (J. Cumming and E. Cumming). New York: Atherton Press.

Tait, L., Birchwood, M., Trower, P. (2003). Predicting engagement with services for psychosis: insight, symptoms and recovery style. *The British Journal of Psychiatry, 182*, 123-128.

Timmerman, I.G.H. & Emmelkamp, P.M.G. (2004). The relationship between attachment styles and Cluster B personality disorders in prisoners and forensic inpatients. *International Journal of Law and Psychiatry, 29* (1), 48-56.

Tucker, S. & Hughes, T. (2007). *Standards for Medium Secure Units: Quality Network for Medium Secure Units*. Royal College of Psychiatrists, College Centre for Quality Improvement.

Vaglum, P., Friis, S., & Karterud, S. (1985). Why are the results of milieu therapy for schizophrenic patients contradictory? An analysis based on four empirical studies. *Yale Journal of Biology and Medicine, 58* (4), 349-361.

Waters, E. & Cummings, E.M. (2000). A secure base from which to explore close relationships. *Child Development, 71*, 164-172.

Watson, D., Clark, L.A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

Wei, M., Vogel, D., Ku, T., Zakalik, R. (2005). Adult attachment, affect regulation, negative mood, and interpersonal problems: the mediating roles of emotional reactivity and emotional cutoff. *Journal of Counselling Psychology, 52* (1), 14-24.

Welch, M. (2005). Pivotal moments in the therapeutic relationship. *International Journal of Mental Health Nursing, 14*, 161-165.

Wood, D. & Pistrang, N. (2004). A safe place? Service users' experiences of an acute mental health ward. Journal of community and Applied Social Psychology, 14, 16-28.

PART THREE:

CRITICAL APPRAISAL

1. EVOLUTION OF THE STUDY

1.1 Origins of the study

The current study on male inpatients with psychosis stemmed from an increasing interest in working with forensic inpatients. This is an area in which I gained experience of working in prior to clinical training. Working as a research assistant in a high secure hospital gave me insight into the complex interactions of the many factors involved in an inpatient's care, from their relationships with staff, to their immediate environment. In the first year of my DClinPsy, I worked in one of the secure units as a trainee. It was from this experience that I began developing my research idea. This meant that I had a prior working relationship with many of the staff and patients. I feel this facilitated participation at this unit but also allowed me to appreciate the need for developing a good relationship quickly with inpatients and staff at other units. Having worked in forensic inpatient settings for many years, it was becoming apparent that the ward environment was having a distinct emotional impact on me whilst I worked on them. It intrigued me how this might also be the case for inpatients themselves, particularly when many in this population have insecure attachment styles and find it difficult to form positive relationships.

I was also aware of the changing culture of services for inpatients and it made me think about how services were making sure they were adequately serving the needs of inpatients. My supervisor's interest in attachment theory also made me think about individual traits of the inpatient population and how these might interact with their experience of the service and the ward. This support and my various observations helped me to initiate my research idea and motivated an extensive literature search. I explored the idea of service attachment and what

factors may contribute to this, whether it was something intrinsic in the inpatient, or whether more environmental factors were involved.

1.2 Development of the current study

Having reviewed the literature, it was deemed appropriate to use a questionnaire method. I was aware that the population may include individuals who were actively psychotic and unmotivated; therefore I was mindful that whatever methodology I chose would need to fit with what this population could offer. Following a review of the literature I was able to identify three measures that would be suitable to use in my research. I found this process very prolonged given the range of measures available and spent time assessing the reliability and validity of a range of measures, weighing up the pros and cons of each. A questionnaire method had been used in many previous studies, and given the nature of the client group this method was both efficient and reliable. This is also a fairly broad area of research and given its exploratory nature, this method was felt sufficient. I was conscious of the difficulties associated with administering questionnaires although I was aware that this would allow me to access a larger sample across many different units. In addition, the ease of administering them to inpatients myself would maximise the response rate.

2. REFLECTIONS ON DATA COLLECTION

2.1 Access to units

Given that secure settings are notoriously difficult to gain access to (Mason, 2003), I experienced many setbacks, which required tenacity and patience on my behalf. The closed

nature of the various establishments in the current study required many liaisons with various professionals to begin the task of accessing this population. Given that researching hospitalised patients is ethically problematic (Bartlett & Canvin, 2003), the issue of gatekeeping by RMOs and ward staff also became an issue requiring sensitive management.

2.2 Ethical approval

The National Research Ethics Committee (NREC) reviewed my research proposal since it was a multi-site research project. I was also required to submit separate Research and Development applications to all three NHS trusts, which required much work. The committee were very thorough and the review itself took almost an hour which I found very intense and demanding. However, on reflection, this was a very important experience and helped me to appreciate the sensitivity of my research. The main concern of the Ethics Committee was making the information provided to the inpatients (i.e. the participant information sheet and consent form) clearer and easier to understand. They also required further re-assurance that I had taken every precaution to protect both myself, and those taking part in the current study. On clarification of these points, the committee was happy for me to commence my research.

2.3 The sample

Having worked with this client group previously in both clinical and research capacities, I was still somewhat cautious about approaching them to take part. I feel this was a combination of two factors. Firstly, I was entering into new surroundings and was reliant on unfamiliar individuals and settings, which was unnerving initially, but this feeling soon dispersed given the friendly and accommodating nature of the staff at each unit. Secondly, I

was aware of the fact that individuals with severe mental illness are more likely to refuse to take part in research (Haapea, 2007) so was prepared for a high attrition rate. I was also extremely aware that my sample would be representative of those who were deemed able to provide capacity to consent, whilst those who were perhaps experiencing an acute phase of their illness would not be appropriate to give this capacity and therefore would be under represented in the current study as a result.

2.4 Ethical considerations

The main ethical concern for my research was whether the inpatients would have capacity to consent. This is a particularly important decision, especially when conducting research with a vulnerable population with a diagnosis of schizophrenia, who require additional support in the consent process (Howe et al., 2005). Obtaining written consent from a large number of RMOs ensured that the inpatients wellbeing was considered above everything. Only upon receiving this consent from a participant's RMO were they approached. Even at this stage of the research, the first meeting with the participant was to offer them an information sheet about the current study that they could take away and have a think about. I explained the necessary information in simple terms both written and orally to ensure full understanding was achieved. The second visit with the participant involved assessing for capacity myself. This was a very important part of the process and required patience and an awareness of any difficulties the inpatient may have in terms of understanding their role or aspects of the current study. If I was satisfied that I felt they understood the study then I would commence in gaining their written consent, outlining their right to refuse or withdraw at any time without any reason. I was fortunate to not have any individuals withdraw part way through the study but encountered a number of patients who decided they would rather not take part.

Another ethical concern related to the potential for participant distress. The information required by the questionnaires was not particularly distressing but it may have prompted thoughts about attachment relationships to important people or it may have prompted thoughts about unhappy experiences within the service. Participant distress was minimised by highlighting to the inpatients that they could stop at any time they felt distressed. Consultation with nursing staff prior to the session was also informative in gathering information about the inpatients current functioning and mood level. In addition they were informed that the patient advocate could be accessed if required. Fortunately, to my knowledge, none of the inpatients approached experienced any distress that required additional management. Inpatients were given the opportunity on completion of the measures to discuss with me any issues they had, and many appeared to benefit from this informal space to reflect on what they had just done.

2.5 Access to participants

First and foremost, ethical approval was lengthy and extensive, with the ethics committee requiring lots of reassurance in terms of the safety of this vulnerable population and of myself. Then, in order to access the inpatients, I had to contact the secretaries of the RMOs (Responsible Medical Officers), which was very time-consuming given that every person I came into contact with required a full explanation of my position and my research. Whilst many of the units were forthcoming and helpful, some required more input in terms of chasing up telephone messages, e-mails and written correspondence. This ultimately had a knock on effect on the research schedule. In total, nearly twenty-five RMOs and their secretaries had been contacted to identify participants who met the inclusion criteria and who were able to consent. This was a very difficult stage of the research since some RMOs did not

want to sign the consent forms without confirmation from their trust's research and development department. This became problematic, not because this approval had not been sought, but because there was a lack of communication between these this department and the service. This therefore required many hours of chasing up information which was further prolonged by the unavailability of many of the RMOs due to their busy schedules. One unit in particular caused a significant delay due to refusing access until approval from their research and development unit had been approved. This was further confounded by the fact that my lead contact at that unit was preparing to leave. Ultimately this delayed my data collection phase of the research by a significant number of weeks.

2.6 Data collection

I found administering the questionnaires to the first few participants quite challenging initially, and was mindful of having an awareness of the participant's cognitive abilities and level of attention. I also had to keep a balance between responding to participant questions and moving the session on to maximise data collection at the unit I was visiting that day.

Commencement of data collection only began once the RMO had stated that the identified individual had capacity to consent. In terms of practical management, this had to be carefully managed to maximise use of my time, given that most of the units were some distance away. With extensive travelling and sensitive management of working relationships, in addition to gathering the data itself, this research was demanding both physically and emotionally. Data collection commencement varied for each unit but despite delays with one unit, this part of the research commenced smoothly once I was able to access the wards.

2.6.1 Issues relating to staff

With the exception of one unit providing me with keys, I was extremely reliant on staff to escort me from the main gate to various wards. This required the ability to maintain good working relationships whilst appreciating the time constraints imposed on staff on these busy wards. Feeling a bit of a burden on staff became a familiar feeling that required managing on a frequent basis. In addition, misunderstandings about my role often caused a problem, especially when staff approached the inpatient initially and informed them I was a social worker, or a student, or a psychiatrist. This was problematic on a number of occasions when inpatients refused to see me on the basis that they thought I was from a different profession. Similarly, on occasions the staff would escort me to the inpatient's bedroom whilst they were still asleep and wake them up to ask if they wanted to participate. This was extremely uncomfortable for me and clearly inappropriate, and required me to become quite firm with members of staff in terms of adhering to appropriate boundaries, to retain the inpatient' dignity and to ensure my own safety. It was also quite difficult to deal with staff reactions to the study given that many of them misinterpreted it as an audit rather than the gathering of patient views on their attachment to a service. This frequently disrupted the data collection process and became somewhat difficult to manage on some wards.

2.6.2 Issues with inpatients

Many of the identified participants were happy to meet with me and agreed they would like to participate at the first meeting. This demand was often somewhat exacerbated by the fact that by maximising my data collection on the days I visited, I ended up interviewing up to 8 inpatients a day as well as trying to co-ordinate other visits and further interviews. Data was

collected, usually in a quiet room off the ward which required discussions with the ward staff around personal safety. However, this was not always the case and occasionally I had to wait around on the ward for a room to become available. This waiting around on the ward gave me an opportunity to talk to some of the inpatients but also created some interest from those who had not been approached to take part. They wondered why they had not been chosen, or when they would be approached, which had to be managed sensitively given the public nature of these inpatient wards. This had to be balanced with keeping to a tight schedule and ensuring that staff would be available to take me onto the next ward at a moments notice. During this phase I also had to be sensitive to the inpatients cognitive difficulties and not assume that each participant could read or write. This had to be done sensitively to avoid embarrassing or patronising the inpatient. In addition, some of the inpatients were particularly worried about confidentiality and required further re-assurance that their responses would be kept confidential. Occasional delays were also caused by patients being off the ward for meals or for other activities.

2.7 Data analysis

The amount of data generated from 76 inpatients was vast, and checking, scoring, then inputting this into SPSS took many weeks, which I had underestimated. I had already planned what statistical analyses I would carry out on my statistics, however, the data analysis phase of my research took longer than expected due to the amount of information that had been collected.

3. REFLECTIONS ON WRITING UP

Writing up the literature review was very difficult, which was further exacerbated by the need to be concise and adhere to a strict word limit. I found that there was a wide range of literature available on ward atmosphere (WA) and inpatients, but very little on WA exclusively in relation to those with psychosis. As a result, the literature search was very extensive and covered a range of databases. Since some of the literature was from the 1960's, gaining access to some of the documentation was difficult and time consuming.

Writing up my research report felt quite different and felt more segmented, which helped me to work on specific sections at a time, rather than trying to manage the document as a whole. During this phase of my research, the data dominated for a large part. I became acutely aware of my inability to progress to my discussion until I was happy that the data analysis was complete and accurate.

4. SUPERVISION

Formal supervision from my academic and my field supervisor proved a valuable source of support and motivation in generating my ideas. Through each stage of my research I found my experience of supervision both supportive and challenging. I worked with my academic supervisor in developing my research question, structuring my report, and conducting my statistical analyses. My field supervisor assisted in gaining access to my sample and liaising between the various units. Both supervisors helped me in developing an exploratory idea into a large multi-site study.

5. PERSONAL IMPACT

5.1 The research topic

Given the range of ideas I had regarding my research topic, it took me a number of months to settle on a particular area to explore. Through an extensive examination of the literature available I was finding many gaps in relation to research with inpatients with psychosis. I was interested in the idea that they have different needs from services and wanted to explore why this was. I was also aware of the fact that this patient group is very different from other types of patient in terms of their attachment histories. This made me wonder about any connections that may be at work with these two ideas. Good supervision helped me formulate my ideas and reach a decision about what to explore, which made me feel relief. I was excited about the prospect of exploring an idea that had not been considered before but was also ambiguous about this since the measures I was using were relatively new and exploring all these concepts together was going to be a challenge.

5.2 The client group and data collection

Despite my experience with this client group, I was still anxious about visiting new units and having to introduce myself and my research to everyone I came into contact with. However, after a few visits to each unit I became familiar with the staff and my surrounding and this feeling of anxiety soon dissipated. I was enthused by the wide variety of characters that I met and really enjoyed the satisfaction the inpatients expressed at being asked about their experiences of the service.

6. A FINAL THOUGHT

I have endeavoured to conduct research in an area that is both challenging and demanding. Gaining access to and managing relationships in four medium secure units was difficult, particularly in the face of the barriers to access as discussed. However, this experience has been worthy given the opportunity I have had in hearing the voice of inpatients which are all too often overlooked in the endeavour for safety. I have learnt that this research area is very broad and complex and I hope to add to the existing literature in this area.

REFERENCES

Bartlett, A. & Canvin, K. (2003). User views and ethical issues in qualitative methods. In G. Adshead & C. Brown (Eds.). *Ethical Issues in Forensic Mental Health Research* (pp. 58-71). London: Jessica Kingsley Publishers.

Mason, T. (2003). Multi-disciplinary aspects of forensic mental health research. In G. Adshead & C. Brown (Eds.). *Ethical Issues in Forensic Mental Health Research* (pp. 87-106). London: Jessica Kingsley Publishers.

Haapea, M. et al. (2007). Non-participation may bias the results of a psychiatric survey: An analysis from the survey including magnetic resonance imaging within the Northern Finland 1966 Birth Cohort. *Social Psychiatry and Psychiatric Epidemiology, 42* (5), 403-409.

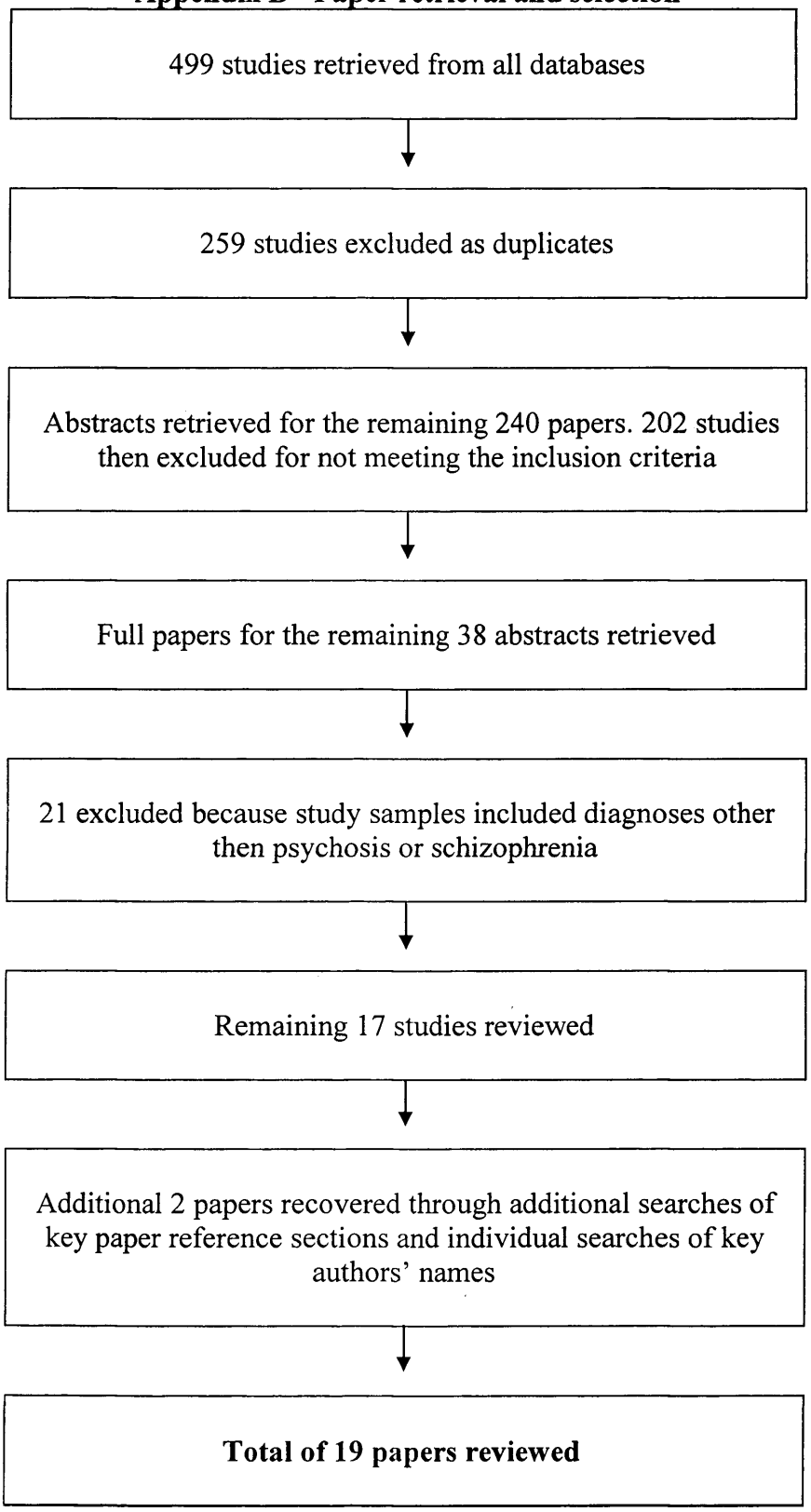
Howe, V. et al. (2005). Competence to give informed consent in acute psychosis is associated with symptoms rather than diagnosis. *Schizophrenia Research, 77*, 211-214.

APPENDICES

Appendix A - Databases searched, keywords and results

Database	Years	Keywords	No. of studies
SCOPUS	1960 - Current	(TITLE-ABS-KEY (WA) AND TITLE-ABS-KEY (schizophrenia))	27
		(TITLE-ABS-KEY (WA) AND TITLE-ABS-KEY (psychosis))	24
		(TITLE-ABS-KEY (ward climate) AND TITLE-ABS-KEY (schizophrenia))	7
		(TITLE-ABS-KEY (ward climate) AND TITLE-ABS-KEY (psychosis))	4
		(TITLE-ABS-KEY (ward environment) AND TITLE-ABS-KEY (schizophrenia))	115
		(TITLE-ABS-KEY (ward environment) AND TITLE-ABS-KEY (psychosis))	64
PsycInfo	1960 - Current	WA AND schizophrenia	12
		WA AND psychosis	15
		ward climate AND schizophrenia	0
		ward climate AND psychosis	0
		ward environment AND schizophrenia	3
		ward environment AND psychosis	5
ISI Web of Science	1960 - Current	Topic = (WA) AND Topic (schizophrenia)	19
		Topic = (WA) AND Topic (psychosis)	10
		Topic = (ward climate) AND Topic (schizophrenia)	7
		Topic = (ward climate) AND Topic (psychosis)	1
		Topic = (ward environment) AND Topic (schizophrenia)	20
		Topic = (ward environment) AND Topic (psychosis)	11
Medline	1960 - Current	((Topic=ward OR ((MeSH Heading:exp= Skilled Nursing Facilities) AND (MeSH Heading:exp= Hospitals))) AND (Topic=atmosphere OR MeSH Heading:exp=Atmosphere)) AND (Topic=schizophrenia OR MeSH Heading:exp=Schizophrenia)	17
		((Topic=ward OR ((MeSH Heading:exp= Skilled Nursing Facilities) AND (MeSH Heading:exp= Hospitals))) AND (Topic=atmosphere OR MeSH Heading:exp=Atmosphere)) AND (Topic=psychosis OR MeSH Heading:exp=Psychotic Disorders)	19
		((Topic=ward OR ((MeSH Heading:exp= Skilled Nursing Facilities) AND (MeSH Heading:exp= Hospitals))) AND (Topic=climate OR MeSH Heading:exp=Climate)) AND (Topic=schizophrenia OR MeSH Heading:exp=Schizophrenia)	3
		((Topic=ward OR ((MeSH Heading:exp= Skilled Nursing Facilities) AND (MeSH Heading:exp= Hospitals))) AND (Topic=climate OR MeSH Heading:exp=Climate)) AND (Topic=psychosis OR MeSH Heading:exp=Psychotic Disorders)	5
		((Topic=ward OR ((MeSH Heading:exp= Skilled Nursing Facilities) AND (MeSH Heading:exp= Hospitals))) AND (Topic=environment OR MeSH Heading:exp=Environment)) AND (Topic=schizophrenia OR MeSH Heading:exp=Schizophrenia)	65
		((Topic=ward OR ((MeSH Heading:exp= Skilled Nursing Facilities) AND (MeSH Heading:exp= Hospitals))) AND (Topic=environment OR MeSH Heading:exp=Environment)) AND (Topic=psychosis OR MeSH Heading:exp=Psychotic Disorders)	46

Appendix B - Paper retrieval and selection



Appendix C - Data extraction template

Data extraction criteria
Authors
Where was study based?
What was the setting and sample?
Purpose of study clearly stated?
Was the sample described in detail? Demographics? (Inclusion/exclusion criteria?)
Was design appropriate? Any biases?
Were confounding variables controlled for?
Was power calculation specified?
Recruitment process specified?
Was capacity to consent explored?
Was informed consent gained?
Was the outcome measure reliable?
How was data collected? Limitations with view to sample?
Were results reported in terms of significance?
Was the method of analysis appropriate?
Attrition accounted for?
Were conclusions appropriate?
Can the results be generalised? (threat to external validity?)
Implications stated?
Clinical relevance?
Limitations mentioned?
Future directions?

Appendix D - Results of data synthesis

Framework criteria							
	1	2	3	4	5	6	7
	Kellam et al. (1967)	Friis (1986)	Vaglum et al. (1985)	Christenfeld et al. (1989)	Cohen & Khan (1990)	Werbart (1992)	Jin (1994)
Where was study based?	US	Norway	Oslo, Norway	New York State's Harlem Valley Psychiatric Centre	USA	Sweden	China
What was the setting and sample?	Over 340 newly admitted patients randomly assigned to one of four drug treatments.	Thirty-five psychiatric wards.	Hospital psychiatric ward with inpatients with a diagnosis of psychosis and staff.	2 wards; Model ward (based on what physical features of the environment preferred by patient) and a control ward	35 patients meeting DSM-III criteria for schizophrenia. 13 treated on a psychiatric intensive care unit (PICU; more structured and less stimulating) and 22 on an open ward.	Three Swedish Therapeutic Communities	Psychiatric Hospital. Female schizophrenic inpatients (N=50). Half the sample was allocated to the experimental group and were given freedom to leave the locked ward at will. The control group (N=25) remained on the same ward as the experimental group but were not permitted to leave.
Purpose of study clearly stated?	Clear aims. To test the relationship between the dimensions of ward atmosphere and treatment outcome	Yes. To compare the recommendations of the literature with the opinions of psychotic and non-psychotic patients in terms of a good ward atmosphere.	Yes. To re-evaluate the ward atmosphere. perceptions after changes made to the ward.	To assess differences across the wards although not clearly stated.	To assess differences across the wards in terms of BPRS ratings for newly diagnosed DSM-III patients with schizophrenia.	To assess to what degree the three therapeutic communities for psychotic patients satisfy the requirements of a theoretical model and to assess staff and patients' perceptions of the ward atmosphere.	Yes. To assess the effect on residual symptoms of giving chronic schizophrenic patients on a locked ward freedom to leave the ward at will and simultaneously encouraging them to participate in a variety of group activities.
Was the sample described in detail? Demographics? (Inclusion/exclusion criteria?)	Sex and race given.	Yes. Although sample description misleading as only two-thirds were psychotic.	No clear characteristics of sample given apart from diagnosis.	No clear table of patient characteristics given.	Yes, clearly.	No clear description of sample and unclear how many numbers in each sample although vaguely specifies.	Yes. Detailed.

Framework criteria							
	1	2	3	4	5	6	7
	Kellam et al. (1967)	Friis (1986)	Vaglum et al. (1985)	Christenfeld et al. (1989)	Cohen & Khan (1990)	Werbart (1992)	Jin (1994)
Was design appropriate? Any biases?	Randomly assigned. Double blind conditions. Anova used.	Correlational study.	Pre- and post- re-organisation of ward.	Yes. Pre- and post- test design across two settings (Model ward & control ward)	Yes, pre- and post-admission	Cross-sectional although wards had been running for different lengths of time.	Yes. Controlled, single blind study.
Were confounding variables controlled for?	No effects due to drug or sex were reported if not related to ward characteristic.	No variables controlled.	No. Only that changes made on five variables relevant to a better ward milieu for patients with psychosis would have contributed to improvements. No indication specifically of which.	Not reported, although discussion referred to four different ways the improvements may have been induced (symbolic, aesthetic, group dynamics, and functional reasons).	Yes, medication was taken into account and mood assessed through BPRS.	Not mentioned	Medication dosage assessed.
Was power calculation specified?	No	No	No power calculation.	No power calculation	No	No	No power calculation specified.
Recruitment process specified?	Only that patients were newly admitted.	Only that patients recruited from wards catering for those with psychosis and were anonymous.	Not specified	Only based on sample within wards.	No	No, only if on ward then included although attrition accounted for.	Fifty subjects who met DSM-III-R criteria for schizophrenia were randomly assigned to experimental or control groups.
Was capacity to consent explored?	No.	No.	No	No	No	Not detailed	Not mentioned.

Framework criteria	1	2	3	4	5	6	7
	Kellam et al. (1967)	Friis (1986)	Vaglum et al. (1985)	Christenfeld et al. (1989)	Cohen & Khan (1990)	Werbart (1992)	Jin (1994)
Was informed consent gained?	Not mentioned.	Not mentioned.	Not mentioned.	Assumed as measures completed	No	Not detailed but assumed if questionnaire completed	Not mentioned.
Was the outcome measure reliable?	Not stated but measures developed by other authors.	Yes. Ward Atmosphere Scale (Moos & Houts, 1967) and Good Milieu Index.	Yes. Ward Atmosphere Scale (Moos & Houts, 1967)	Yes. WAS (Moos & Houts, 1967) although satisfaction measure used with patients.	Yes, BPRS	Yes. COPES reliable and valid	Yes. Pre- and post measure using the Chinese version of the Structured Assessment of Negative Symptoms (SANS) & the Brief Psychiatric Rating Scale (BPRS).
How was data collected? Limitations with view to sample?	Measures completed by psychiatrist and staff	Questionnaires were distributed for patients to complete.	Questionnaire and semi-structured interviews	Pre- and post- measures from staff and patients.		Self-completion of questionnaires.	Data was collected by pre- and post- patient outcome measures. External contributing factors were not mentioned.
Were results reported in terms of significance?	Yes	Yes	Yes. Staff reported significantly less conflict and patients reported significantly higher on perceived level of order and organisation & practical orientation but significantly lower on anger & aggression.	Yes, reported that the staff questionnaire did not report significant results in the WAS.	Yes.	No. Reported in terms of deviations from the mean.	Yes.
Was the method of analysis appropriate?	ANOVA's	Yes, correlations.	Not clear what statistical methods were used.	Two-way analysis of variance comparing pre- and post-test scores of staff & patients on Model ward and control ward.	Two-way repeated measures ANOVA.	Deviations from the mean	Yes. T-test.

Framework criteria							
	1	2	3	4	5	6	7
	Kellam et al. (1967)	Friis (1986)	Vaglum et al. (1985)	Christenfeld et al. (1989)	Cohen & Khan (1990)	Werbart (1992)	Jin (1994)
Implications stated?	That patient behaviour variables of the ward atmosphere are more powerful than the hospital policy variables	Yes	Still don't know enough about milieu treatment.	If surroundings more conducive to normal social interaction etc. it may make the patient behave more normally.	Optimum environment for early diagnosis of schizophrenia may be one with minimal stimulation with lots of structure.	Yes. Beneficial psychotherapeutic environments for psychotic patients need to satisfy double demands of allowing exploration whilst providing support.	Yes. Inpatients were transformed as a result of the study.
Clinical relevance?	As above	More knowledge on patients.	Outcome seems to be correlated with patient perceptions.	Not stated.	The elements found to be therapeutic in the first few days of treatment may be different from those found later in the treatment.	Different patients need different balance between explorative and supportive factors in milieu	Environment important.
Limitations mentioned?	Not mentioned	Not mentioned.	Yes, still not sure which variables contribute.	Not mentioned.	Yes, not matched groups.	No discussion of	Yes. Experimental and control on the same ward. Differences may have been due to medication. Groups may not have been blind to coders.
Future directions?	No further research options explored.	Not explored.	More correlational studies needed.	Not prompted.	Focus on early stages of admission.	Need to open up new ways of thinking about treatment organisations and check up on how our efforts are reflected in patient perceptions.	Highlighted need to assess further than just six months after intervention.

Framework criteria							
	1	2	3	4	5	6	7
	Kellam et al. (1967)	Friis (1986)	Vaglum et al. (1985)	Christenfeld et al. (1989)	Cohen & Khan (1990)	Werbart (1992)	Jin (1994)
Attrition accounted for?	Not mentioned	Not mentioned.	No mention of.	Yes. Full details given.	Yes, from PICU sample.	Yes.	No attrition.
Were conclusions appropriate?	Good treatment outcome with wards with low disturbed behaviour, low aggressive behaviour, low aloneness, high cluster-size, and high staff-patient contact. Patient behaviour dimensions of the ward atmosphere are a part of the more powerful social forces than the hospital policy dimensions.	Yes. Psychotic patients benefit from an optimal environment.	Yes, in terms of significant findings although did mention that study was unclear about which variable contributed to the improved results.	Yes,	Yes, that after two days, the PICU environment highlighted improvements on BPRS.	Yes, differences were found between staff and patients and there were divergences between the explicit treatment philosophy and the perceived WA.	There was no significant difference between the two groups at enrolment. The experimental group showed improvement over the six-month interval (which was significant for all type of symptom except depression-anxiety) and had significantly less severe symptoms than the control group at the end of the intervention. The differences in the groups were not due to differences in dosage of medication.
Can the results be generalised? (threat to external validity?)	Large sample	Partly as control group non-psychotic.	No as sample characteristics unclear. No sample size stated.	More so given that a control group was used.	Difficult to generalise as groups were not matched (in terms of gender, severity of illness, and drugs)	Unclear as very specific environments studied. Good finding for psychotic patients.	Yes. RCT so as representative as possible. Should be possible to generalise to other inpatient females with schizophrenia. Can not be generalised to male patients.

Framework criteria							
	8	9	10	11	12	13	14
	Fan, Huang, Wu, Jiang (1994)	Mosher et al. (1995)	Melle et al. (1996)	Hansen & Slevin (1996)	Jansson & Eklund (2002b)	Jansson & Eklund (2002a)	Rossberg & Friis (2003a)
Where was study based?	China	USA	Oslo, Norway	USA	Southern Sweden	Southern Sweden	Norway
What was the setting and sample?	N=90 male inpatients who met the ICD-9 criteria for schizophrenia. Half allocated to experimental group (open-door rehabilitation ward) and half to control group (standard inpatient care on a locked ward)	Two control settings (short-term hospitalisation with anti-psychotics) versus two experimental conditions (Soteria Project, small, home-like social environment usually without neuroleptics). N=45 experimental. N=55 control.	General hospital psychiatric ward. 73 patients with DSM-III-R schizophrenia admitted 1980 & 1983	Patients with a diagnosis of psychosis. 1st WAS (N=29), 2nd WAS (N=18), 3rd WAS (N=18)	Psychiatric Rehabilitation Unit (PRU) for patients with a diagnosis of psychosis	Psychiatric Rehabilitation Unit (PRU) for patients with a diagnosis of psychosis	54 wards for patients with psychosis
Purpose of study clearly stated?	To assess the effect of an open-door rehabilitation ward on outcomes for patients with a diagnosis of schizophrenia.	To compare short-term hospitalisation with anti-psychotic drug treatment against the Soteria project which is a small, home-like social environment usually without neuroleptics. Data collected after 6 weeks.	Yes. To evaluate the re-organisation of a short-term psychiatric ward. Did patients treated after the re-organisation show changes in short-term outcomes?	To assess the effects of applying therapeutic community principles to an acute care psychiatric rehabilitation programme using the WAS.	Clear aims. In what way the perceived ward atmosphere was related to cognitive ability, self-image, self-related symptoms, and social functioning.	Clear aims. To describe how staff and patients perceived the ward atmosphere over time. To assess differences between staff and patients and to look at differences in perceptions between gender and diagnosis.	To assess need for revision of WAS subscales; Spontaneity and Anger and Aggression. To examine if patient scores are paralleled by staff scores.
Was the sample described in detail? Demographics? (inclusion/exclusion criteria?)	Yes.	Yes, full details given.	Yes. Clear table of sample characteristics although not made clear that a mixed gender sample.	Yes, although sample size unclear until results section.	Table of sample characteristics provided although some with diagnosis other than psychosis	Clear demographics of sample.	No clear description of sample characteristics. Leads to believe that 100% psychotic when actually only 2/3 psychotic.

Framework criteria	8	9	10	11	12	13	14
	Fan, Huang, Wu, Jiang (1994)	Mosher et al. (1995)	Melle et al. (1996)	Hansen & Slevin (1996)	Jansson & Eklund (2002b)	Jansson & Eklund (2002a)	Rossberg & Friis (2003a)
Was design appropriate? Any biases?	Controlled, non-randomised. Pre- and post- scores taken.	Yes, controlled trial with experimental and control group.	Pre- and post- re-organisation of ward then 7 years follow-up	Cross-sectional at three time points	Cross-sectional, self-completion	Yes. Five time intervals.	Cross-sectional
Were confounding variables controlled for?	No.	No mention of.	It was mentioned that sample characteristics may explain difference but no further exploration.	Not mentioned.	Yes, SCL-90 and GAF used	Diagnosis and gender also explored.	No mention of.
Was power calculation specified?	No power calculation specified.	Not described.	No power calculation (N=73)	No power calculation.	No mention of how sample size calculated (N=37)	No power calculation	No
Recruitment process specified?	Yes. Met criteria for ICD-9 schizophrenia. Those in experimental group had to be fit for rehabilitation so biased.	Yes. Clear inclusion criteria and selection designed to provide a relatively homogenous group.	Yes, based on admissions	Yes	Not specified	Not clear	Refers to previous paper.
Was capacity to consent explored?	Not mentioned.	Not mentioned.	No	No	No	No	No

Framework criteria	8 Fan, Huang, Wu, Jiang (1994)	9 Mosher et al. (1995)	10 Melle et al. (1996)	11 Hansen & Slevin (1996)	12 Jansson & Eklund (2002b)	13 Jansson & Eklund (2002a)	14 Rossberg & Friis (2003a)
Was informed consent gained?	Not mentioned.	Not mentioned.	No mention of.	No	Assumed as participation but no mention of	Participation was voluntary	No
Was the outcome measure reliable?	Yes. The Nurses Observation Scale for Inpatient Evaluation (NOSIE).	Yes. WAS (Moos & Houts, 1967) & COPES.	No. Based on level of functioning at discharge and length of stay.	WAS	Yes, for all measures.	Yes. COPES.	Yes, WAS.
How was data collected? Limitations with view to sample?	Completed by doctors and nurses Observational scale.	Independent research evaluators interviewed all subjects after 6 weeks.	Psychiatrists reviewed medical charts. Length of inpatient stay and functioning at discharge was seen as an indirect measure of the rate of improvement.	By mental health worker on ward	Patients completed measures. Psychiatrist completed GAF.	Via questionnaires completed by staff and patients.	Questionnaires to staff and patients.
Were results reported in terms of significance?	Yes.	Yes.	Yes. Many results not significant.	Yes	Yes. 15 relationships between IV & DV that reached $p<0.1$	Yes. There were significant differences over time for a number of factors. The staff perceived significantly more Anger and Aggression than the patients.	Correlations between factors
Was the method of analysis appropriate?	Yes. T-test.	Chi-square and t-tests.	Multiple linear regression analysis	T-tests	Yes. Bivariable and multivariable analyses (multivariable stepwise backward logistic regression)	Yes	Cronbach's alpha and the Corrected Item Total Subscale correlation (CITC)

Framework criteria							
	8	9	10	11	12	13	14
	Fan, Huang, Wu, Jiang (1994)	Mosher et al. (1995)	Melle et al. (1996)	Hansen & Slevin (1996)	Jansson & Eklund (2002b)	Jansson & Eklund (2002a)	Rossberg & Friis (2003a)
Attrition accounted for?	2 left. One discharged and one died.	Not mentioned.	Yes.	No	No. only that 3 did not want to complete	Yes although questionnaires anonymous so hard to identify dropouts.	Refers to previous paper.
Were conclusions appropriate?	Over one year, the experimental group showed significant improvements in overall functioning compared to the control group.	This study was able to replicate the findings from a previous study, both in terms of patient outcomes and staff perceptions. This highlights the usefulness of these specially designed environments for individuals with schizophrenia. In addition, high levels of perceived involvement, support, spontaneity, and autonomy, and low levels of practicality and staff control seem to address the therapeutic needs of acutely psychotic patients.	No. Stated non-significance but concluded WA influential for schizophrenics.	Results highlighted that the Program change unit was significantly higher in the area of Involvement, Support, and Practical Orientation after three administrations of the WAS, 2 months after the programme change. Involvement and Support Scales showed significant positive changes highlighting that patients felt significantly more involved in treatment and perceived staff as more supportive as a result.	Yes. Linked to findings.	Yes. Explanation given, including from a psychodynamic perspective. Few differences between psychoses and other psychoses group. No sex.	Main finding was that perceptions of attitudes and behaviour do not seem to measure a common dimension neither concerning Spontaneity or Anger and Aggression. Concludes that behaviour and attitudes should be rated separately and that the revised subscales seem more clinically relevant, especially in wards for patients with psychosis.

Framework criteria	8	9	10	11	12	13	14
	Fan, Huang, Wu, Jiang (1994)	Mosher et al. (1995)	Melle et al. (1996)	Hansen & Slevin (1996)	Jansson & Eklund (2002b)	Jansson & Eklund (2002a)	Rossberg & Friis (2003a)
Can the results be generalised? (threat to external validity?)	No, non-randomised and sample biased in terms of functioning.	Yes, as homogenous sample and controlled design.	No. Lack of clarity of sample gender so hard to generalise	Only to short-term wards although sample size small so limits generalisability.	No. Sample too small but accounted for in discussion.	Can't be generalised to sample as some with other psychoses. Small sample.	Somewhat
Implications stated?	Yes. Experimental group improved in overall functioning.	Yes, that this environment is conducive to those with schizophrenia	Milieu influenced outcomes in schizophrenia	Improvement after change so benefits to inpatients.	Yes. Perception of WA dependent on many factors.	Yes. Psychodynamic explanation given for difference in findings.	Yes
Clinical relevance?	Environment important.	May be able to get the same results as neuroleptcs by adapting the atmosphere.	Implications for patients and clinicians if can reduce number of days on ward by 50%	Yes	Important findings when monitoring the WA to best fit patient group.	Somewhat	Improvement made to measure make it more clinically meaningful and up to date.
Limitations mentioned?	Yes. Non-randomised and raters not blind to the conditions.	Yes. Results may have been due to a placebo affect. May not have been "true" schizophrenics due to the differences in diagnostic criteria.	Yes. Of inferring results	Yes	Yes. Risk of type I & II errors. Small sample.	Yes, hard to monitor drop outs. Severely ill excluded.	None mentioned.
Future directions?	Need more female studies, need differentiation between schizophrenia subtypes, extent of other factors such as patient: staff ratios, family involvement etc. need to be accounted for.	None mentioned.	No prompting for further research.	No mention	No prompting for further research.	Need for research to explore differences in sub groups of patients.	Revised subscales more clinically relevant.

Framework criteria					
	15	16	17	18	19
	Rossberg & Friis (2003b)	Bola & Mosher (2003)	Rossberg & Friis (2004)	Oshima, Mino & Inomata (2005)	Rossberg et al. (2006)
Where was study based?	Norway	America	Norway	Japan	Norway
What was the setting and sample?	54 wards for patients with psychosis	Newly diagnosed DSM-III schizophrenic patients were assigned consecutively (1971 to 1976, N=79) or randomly (1976 to 1979, N=100) to the hospital or the Soteria project and followed for 2 years.	42 wards (36 short-term & 6 intermediate and long-term wards) for patients with psychosis	Inpatients recruited from 20 psychiatric hospitals across Japan (N=549 through randomisation) that had been hospitalised for at least one year. 59% male	Acute psychiatric ward
Purpose of study clearly stated?	To assess need for revision of WAS.	Clear. To compare Soteria project with the general hospital psychiatric ward over two years.	Clear aims. To examine if patients and staff perceive the ward atmosphere differently and to examine the extent to which patient and staff satisfaction is related to the ward atmosphere.	Clear aims. To assess the effects of environmental deprivation on the negative symptoms of schizophrenia.	Clear aims. Too examine to what extent the different subscales of the WAS are related to patient satisfaction on wards for psychotic patients.
Was the sample described in detail? Demographics? (inclusion/exclusion criteria?)	No clear description of sample characteristics. Leads to believe that 100% psychotic when actually only 2/3 psychotic.	Clear description of sample characteristics.	No clear description of sample characteristics. Leads to believe that 100% psychotic when actually only 2/3 psychotic.	Clear description of sample characteristics.	No clear breakdown of patient characteristics.

Framework criteria	15	16	17	18	19
	Rossberg & Friis (2003b)	Bola & Mosher (2003)	Rossberg & Friis (2004)	Oshima, Mino & Inomata (2005)	Rossberg et al. (2006)
Was design appropriate? Any biases?	Cross-sectional	Quasiexperimental research design comparing multiple outcomes at 2 years.	Cross-sectional	Cross-sectional	Cross-sectional once a year over 20 years (11 times)
Were confounding variables controlled for?	No mention of.	No mention of	No mention of controlling for confounding variables.	No, mentioned as limitation in the report.	No mention of controlling for other variables.
Was power calculation specified?	No	No	No	No	No.
Recruitment process specified?	Refers to previous paper.	Consecutive space-available treatment assignment in the first cohort and an experimental design with random assignment in the second cohort.	No, only that if less than 5 patients completed the measures then the ward was excluded.	Randomisation	No, only that if less than 5 patients completed the measures then the ward was excluded.
Was capacity to consent explored?	No	No	No	No	No
Was informed consent gained?	No	No	Not detailed	No	No

Framework criteria	15 Rossberg & Friis (2003b)	16 Bola & Mosher (2003)	17 Rossberg & Friis (2004)	18 Oshima, Mino & Inomata (2005)	19 Rossberg et al. (2006)
Was the outcome measure reliable?	Yes, WAS.	Yes	Yes. WAS	Yes	Yes. WAS and General Satisfaction Index (GSI)
How was data collected? Limitations with view to sample?	Questionnaires to staff and patients.	Questionnaires	Questionnaires to staff and patients	Questionnaires	Questionnaires to patients
Were results reported in terms of significance?	Correlations between factors	Yes	Yes. WAS scores were significantly higher than patients. No significant correlation between staff and patient satisfaction.	Yes	Yes.
Was the method of analysis appropriate?	Cronbach's alpha and the Corrected Item Total Subscale correlation (CITC)	Yes	Correlations	Correlations and multiple regressions.	Correlations
Attrition accounted for?	Refers to previous paper.	No	No information collected about those who did not complete the questionnaires.	Not stated	No information collected about those who did not complete the questionnaires.
Were conclusions appropriate?	Suggested revision of the WAS. Revision of the eight WAS subscales. Replicated the findings that inpatients with psychosis prefer a high level of Support, Practical Orientation, and Order and Organisation shown in a study conducted by Friis in 1986.	Beneficial effects of the Soteria project were still found at the 2-year follow-up. Soteria based patients also had lower psychopathology scores and fewer readmissions compared to the hospital-treated subjects.	Yes. Staff and patients had different perceptions of the ward environment.	Study confirmed the influence of understimulating environmental factors on negative symptoms.	Yes. Changes in ward atmosphere influence patient satisfaction.

Framework criteria					
	15	16	17	18	19
	Rossberg & Friis (2003b)	Bola & Mosher (2003)	Rossberg & Friis (2004)	Oshima, Mino & Inomata (2005)	Rossberg et al. (2006)
Can the results be generalised? (threat to external validity?)	No clear description of sample	Yes, as large sample size.	Not really as mainly used short-term units and heterogeneity in sample diagnoses. Possible selection bias by choosing ward only if 5 or more patients completed WAS.	Yes. Taken from a large sample of hospitals and randomised.	No, as only one ward assessed.
Implications stated?	Yes	A relationally focussed therapeutic milieu with minimal use of anti-psychotic drugs, rather than drug-use in the hospital, should be the preferred treatment for newly diagnosed patients.	Yes. Staff and patients' perceptions should be analysed separately.	It is critical to focus on environmental influences on negative symptoms as well as on improving pharmacological treatments.	Somewhat
Clinical relevance?	Improvement made to measure make it more clinically meaningful.	Beneficial effects of adapted environment	Staff and patient perceptions not to be pooled together and working conditions of staff influence patient satisfaction.	Influence of understimualting environment	Changes in ward atmosphere influence patient satisfaction.
Limitations mentioned?	None mentioned.	Yes.	Yes. Excluded those who did not complete who may have been most severely disturbed.	Yes.	Yes. Small sample, can not be generalised to other wards. One time point assessed for the year.
Future directions?	Results of revising the WAS need to be replicated in other countries.	Change guidelines etc to say antipsychotics not required for everyone.	None stated.	Not clear	Unclear

Appendix E – Measures

Appendix: Service Attachment Questionnaire

Below is a list of 25 statements about mental health services and the experiences people might have whilst receiving them. Please read each item and then respond to each one by indicating how close the statement is to **your own experience and feelings about the service you are currently in contact with**. Write the number in the space provided using the following rating scale:

1	2	3	4
Not at all	Sometimes	Quite often	Always

___ 1. I have somebody who listens attentively to me.
___ 2. I have regular time with the same person that knows me and my problems.
___ 3. I feel under pressure to get better and be discharged.
___ 4. I have a feeling of being looked after.
___ 5. I have the feeling that I'll be accepted for who I am, whatever I say.
___ 6. I'm helped to realize that it's not just me – other people have similar problems.
___ 7. I don't feel listened to, or taken notice of.
___ 8. I get frustrated because I have to wait too long to see my keyworker/therapist.
___ 9. I feel confident that support will be provided when I am discharged.
___ 10. I feel suffocated by the service rather than feeling safe.
___ 11. I can't relate to/get on with certain people in the service.
___ 12. It feels like there's a 'them and us' attitude from the staff.
___ 13. I feel that people in the service understand my needs and problems.
___ 14. I know that the same person is there for me consistently.
___ 15. I worry that I won't be better within the allocated time and will need longer.
___ 16. I feel safe within the service.
___ 17. I don't feel judged, just accepted.
___ 18. I feel patronized and stigmatized by the service.
___ 19. I don't feel that people really want to listen to what my problems are.
___ 20. I worry that I'll be discharged without any follow-up from my keyworker/therapist.
___ 21. I feel confident that if I need more time and help, over longer, that it will be given.
___ 22. I feel frustrated at my lack of freedom within the service.
___ 23. I feel I have a partnership with my keyworker/therapist and that we work together.
___ 24. I have the feeling my keyworker/therapist is really interested in me and wants to help.
___ 25. I am made to feel that I am a burden to the service and outstaying my welcome.

EssenCES ©

Essen Climate Evaluation Schema

Version 2008

		I agree not at all	little	somewhat	quite a lot	very much
1	**This ward has a homely atmosphere**	☐	☐	☐	☐	☐
2	**The patients care for each other**	☐	☐	☐	☐	☐
3	**Really threatening situations can occur here**	☐	☐	☐	☐	☐
4	**On this ward, patients can openly talk to staff about all their problems**	☐	☐	☐	☐	☐
5	**Even the weakest patient finds support from his fellow patients**	☐	☐	☐	☐	☐
6	**There are some really aggressive patients on this ward**	☐	☐	☐	☐	☐
7	**Staff take a personal interest in the progress of patients**	☐	☐	☐	☐	☐
8	**Most patients don't care about their fellow patients' problems**	☐	☐	☐	☐	☐
9	**Some patients are afraid of other patients**	☐	☐	☐	☐	☐
10	**Staff members take a lot of time to deal with patients**	☐	☐	☐	☐	☐
11	**When a patient has a genuine concern, he finds support from his fellow patients**	☐	☐	☐	☐	☐
12	**At times, members of staff are afraid of some of the patients**	☐	☐	☐	☐	☐
13	**Often, staff seem not to care if patients succeed or fail in treatment**	☐	☐	☐	☐	☐
14	**There is good peer support among patients**	☐	☐	☐	☐	☐
15	**Some patients are so excitable that one deals very cautiously with them**	☐	☐	☐	☐	☐
16	**Staff know patients and their personal histories very well**	☐	☐	☐	☐	☐
17	**Both patients and staff are comfortable on this ward**	☐	☐	☐	☐	☐

Correspondence: POB 103 043, D-45030 Essen, Email: norbert.schalast@uni-duisburg-essen.de

Psychosis Attachment Measure (PAM) – Berry and colleagues (2006)

SELF-REPORT MEASURE

We all differ in how we relate to other people. This questionnaire lists different thoughts, feelings and ways of behaving in relationships with others.

PART A

Thinking generally about how you relate to other key people in your life, please use a tick to show how much each statement is like you. Key people could include family members, friends, partner or mental health workers.

There are no right or wrong answers

	Not at all	**A little**	**Quite a bit**	**Very much**
1. I prefer not to let other people know my 'true' thoughts and feelings.	(..)	(..)	(..)	(..)
2. I find it easy to depend on other people for support with problems or difficult situations.	(..)	(..)	(..)	(..)
3. I tend to get upset, anxious or angry if other people are not there when I need them.	(..)	(..)	(..)	(..)
4. I usually discuss my problems and concerns with other people.	(..)	(..)	(..)	(..)
5. I worry that key people in my life won't be around in the future.	(..)	(..)	(..)	(..)
6. I ask other people to reassure me that they care about me.	(..)	(..)	(..)	(..)
7. If other people disapprove of something I do, I get very upset.	(..)	(..)	(..)	(..)
8. I find it difficult to accept help from other people when I have problems or difficulties.	(..)	(..)	(..)	(..)
9. It helps to turn to other people when I'm stressed.	(..)	(..)	(..)	(..)
10. I worry that if other people get to know me better, they won't like me.	(..)	(..)	(..)	(..)

	Not at all	A little	Quite a bit	Very much
11. When I'm feeling stressed, I prefer being on my own to being in the company of other people.	(..)	(..)	(..)	(..)
12. I worry a lot about my relationships with other people.	(..)	(..)	(..)	(..)
13. I try to cope with stressful situations on my own.	(..)	(..)	(..)	(..)
14. I worry that if I displease other people, they won't want to know me anymore.	(..)	(..)	(..)	(..)
15. I worry about having to cope with problems and difficult situations on my own.	(..)	(..)	(..)	(..)
16. I feel uncomfortable when other people want to get to know me better.	(..)	(..)	(..)	(..)

PANAS

Directions

This scale consists of a number of words that describe different feelings and emotions. Read each item and then circle the appropriate answer next to that word. Indicate to what extent you have felt this way during the past week.

Use the following scale to record your answers.

(1) = Very slightly or not at all (2) = A little (3) = Moderately (4) = Quite a bit (5) = Extremely

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
1. Interested	1	2	3	4	5
2. Distressed	1	2	3	4	5
3. Excited	1	2	3	4	5
4. Upset	1	2	3	4	5
5. Strong	1	2	3	4	5
6. Guilty	1	2	3	4	5
7. Scared	1	2	3	4	5
8. Hostile	1	2	3	4	5
9. Enthusiastic	1	2	3	4	5
10. Proud	1	2	3	4	5
11. Irritable	1	2	3	4	5
12. Alert	1	2	3	4	5
13. Ashamed	1	2	3	4	5
14. Inspired	1	2	3	4	5
15. Nervous	1	2	3	4	5
16. Determined	1	2	3	4	5
17. Attentive	1	2	3	4	5
18. Jittery	1	2	3	4	5
19. Active	1	2	3	4	5
20. Afraid	1	2	3	4	5

Appendix F – RMO Information Sheet

University of Leicester

Responsible Medical Officer (RMO) Information Sheet

Study Title: The relative contributions of attachment style and ward climate on attachment to services in male inpatients with a diagnosis of psychosis

Purpose and nature of the research

This research study aims to investigate whether a patient's attachment style or their perceptions of the ward climate are more contributory to their attachment to the forensic mental health institution they reside in.

The importance of mental health service users being provided with secure attachment relationships is well documented, for example, Holmes (1993) highlighted continuity of care as the key issue in the recovery process, whilst Goodwin and colleagues (Goodwin et al., 2003) commented that services may be actively harming patients by re-enacting negative attachment experiences. Whilst previous research has focused on assessing particular one-to-one relationships between patient and care-giver, this focus does not capture the complex types of attachment that people may have to the mental health institution (Goodwin, Holme, Cochrane, & Mason, 2003). With current thinking pertaining to the idea of the institution as an attachment figure (Goodwin et al., 2003), providing a "secure base" to help the patient succeed in therapy and reconcile damaged relationships (Bowlby, 1988), it is important to assess what constitutes a good attachment to a service.

A positive attachment experience is particularly relevant to this population given the higher prevalence of insecure attachment styles and poorer attachment histories within forensic inpatients (Fonagy et al., 1996; McCann, 2000; Timmerman and Emmelkamp, 2006). Research has shown that the presence of insecure attachment styles, particularly in patients with psychosis, is associated with increased psychotic symptomatology (Ponizovsky, Nechamkin, & Rosca, 2007), poorer engagement with treatment (Dozier, 1990), less engagement with services (Tait, Birchwood & Trower, 2004); and less satisfaction with services (Rossberg, Melle, Opjordsmoen & Friis, 2006).

One study also highlighted that inpatients in particular reported a poorer attachment to their service than those receiving other services (Goodwin et al., 2003).

In addition to attachment style, the perceived social climate of the inpatient ward in the mental health institution has also been identified as influencing inpatient wellbeing and treatment outcome (Middleboe et al., 2001). A supportive ward climate is considered by many as a precondition for successful treatment (Schalast et al., 2008) which is important in inpatient settings where patients are on acute wards (Goodwin et al., 2003; Concoran et al., 2003), experience many possible interrelationships (Forster et al., 2003), a high staff turnover (Goodwin et al., 2003), and staff working many different shifts (Ma, 2007). Research has also highlighted that situational stressors that exacerbate symptoms of schizophrenia can be lessened through a supportive environment (Lenroot, Bustillo, Lauriello & Keith, 2003).

By providing a supportive environment and by avoiding repetition of the bad experiences of insecure attachments, the institution could potentially provide a secure attachment for this population (Goodwin et al., 2003).This is particularly important to this sample given that admission and detention to an institution is a stressful experience, and arguably inflicted on a population that find it the most difficult to manage distress and anxiety (Adshead, 2004).

This study therefore aims to investigate the relative contributions of both attachment style and perceptions of ward climate in influencing how much a patient feels attached to the service they reside in, with the hope of providing insight into what inpatients with a diagnosis of psychosis feel are helpful and unhelpful aspects of a service. Furthermore, any differences between the anxious and avoidant attachment styles in terms of attachment to the service, or in their perceptions of the ward climate will be explored.

Participants

Participants will be recruited from 4 medium secure units, with an aim to have a sample size of 100.

Inclusion criteria of participants are as follows:

- must be considered to be fit to give informed consent following liaison with their RMO
- have a diagnosis of psychosis
- have resided in the unit for 3 months or more

Exclusion criteria are as follows:

- cannot speak/understand English
- has resided in the unit for less than 3 months

Patients from any ethnic group may participate, as this study is not aimed to assess a specific ethnic group or compare specific ethnic groups.

Method

The Responsible Medical Officers (RMOs) at the four medium secure units from which participants will be recruited, will be contacted in writing in order to inform them of the purposes of the research and ask for their written consent to access any of their allocated patients they identify as meeting the inclusion criteria for the study. After gaining consent from the participants' RMO, the participant will be sent a Patient Information sheet detailing the study and explaining their role. Each participant will then be approached after 24 hours has lapsed and asked if they want to take part. If so, then a written consent form will be completed which highlights that they can withdraw from the study at any stage and will not experience any negative consequences if they decide not to take part.

Participants will then be asked to complete the following four questionnaires;

1. The Service Attachment Questionnaire (SAQ; Goodwin et al., 2003)
2. The Essen Climate Evaluation Schema (EssenCES; Schalast et al., 2008)
3. The Psychosis Attachment Measure (PAM; Berry, Wearden, Barrowclough & Liversidge, 2006)
4. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988)

Completion of the questionnaires will take no more than 30 minutes to complete and it is anticipated that these will be completed in a private room on the ward. The researcher will be present throughout to assist in the case of any difficulties arising. Participants will be given the opportunity to ask any questions at the end of each session.

Ethical Issues

Written agreement that the participant has capacity to consent at that time will be obtained from RMOs in order to approach those patients identified as meeting the inclusion criteria for this research study.

Informed consent will be obtained from each participant. It will be made clear on the Patient Information sheet and consent form that participants are free to withdraw from the study at any time. This point will be reiterated immediately before the participant takes part in the study. Anyone deemed unfit to give informed consent by the RMO will not be approached to take part in the study.

Each participant will be informed of the patient advocacy service and will be advised that they can take a break from the questionnaires at any time.

Information obtained during assessments will remain confidential. The raw data collected will be available to the researcher and the researcher's institution upon request. Any report or publication resulting from this study will not include any information that will identify participants or compromise confidentiality.

Only the researcher will have access to the computer and the files. The file stored with the data will be password protected, and only the researcher will have knowledge of the password.

References

Adshead, G. (2004). Three degrees of security. Attachment and forensic institutions. In Pfäfflin, F. & Adshead, A. (eds). *A Matter of Security. The Application of Attachment Theory to Forensic Psychiatry and Psychotherapy.* New York: Jessica Kingsley Publishers.

Berry, K., Wearden, A., Barrowclough, C., & Liversidge, T. (2006). Attachment styles, interpersonal relationships and psychotic phenomena in a non-clinical student sample. *Personality and Individual Differences, 41*, 707-718.

Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory.* New York: Basic Books.

Concoran, C., Walker, E., Huot, R., Mittal, V., Tessner, K., Kesfler, L., et al. (2003). The stress cascade & schizophrenia: aetiology & onset. *Schizophrenia Bulletin, 29*, 671-692.

Dozier, M. (1990). Attachment organisation and the treatment use for adults with serious psychopathological disorders. *Development and Psychopathology, 2* (1), 47-60.

Fonagy, P., et al. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. *Journal of Consulting and Clinical Psychology, 64* (1), 22-31.

Forster, J. et al. (2003). The perceived expressed emotion in staff scale. *Journal of Psychiatric and Mental Health Nursing, 10*, 109-117.

Goodwin, I., Holmes, G., Cochrane, R., & Mason, O. (2003). The ability of adult mental health services to meet clients' attachment needs: The development and implementation of the Service Attachment Questionnaire. *Psychology and Psychotherapy: Theory, Research and Practice, 76*, 145-161.

Holmes, J. (1993). *John Bowlby and attachment theory.* London: Routledge.

Lenroot, R., Bustillo, J.R., Lauriello, J., & Keith, S.J. (2003). Integrated treatment of schizophrenia. *Psychiatric Services, 54* (11), 1499-1507.

Ma, K. (2007). Attachment theory in adult psychiatry. Part 2: Importance to the therapeutic relationship. Advances in Psychiatric Treatment, 13, 10-16.

McCann, R.A., Ball, E.M. & Ivanoff, A. (2000). DBT in an inpatient forensic population: the CMHIP forensic model. *Cognitive and Behavioural Practice, 7,* 447-56.

Middleboe, T., Schjodt, T., Byrsting, K., & Gjerris, A. (2001). Ward atmosphere in acute psychiatric in-patient care: patients' perceptions, ideals and satisfaction. *Acta Psychiatrica Scandinavica, 103*, 212-219.

Ponizovsky, A.M., Nechamkin, Y., Rosca, P. (2007). Attachment patterns are associated with symptomatology and course of schizophrenia in male inpatients. *American Journal of Orthopsychiatry, 77* (2), 324-331.

Rossberg, J.I., Melle, I., Opjordsmoen, S. & Friss, S. (2006). Patient satisfaction and treatment environment: A 20-year follow-up study from an acute psychiatric ward. *Nordic Journal of Psychiatry, 60* (2), 176-180.

Schalast, N., Redies, M., Collins, M., Stacey, J. & Howells, K. (2008). EssenCES, a short questionnaire for assessing the social climate of forensic psychiatric wards. *Criminal Behaviour and Mental Health, 18*, 49-58.

Tait, L., Birchwood, M. & Trower, P. (2004). Adapting to the challenge of psychosis: personal resilience and the use of sealing over (avoidant) coping strategies. *British Journal of Psychiatry, 185*, 410-415.

Timmerman, I.G.H., & Emmelkamp, P.M.G. (2006). The relationship between attachment styles and Cluster B personality disorders in prisoners and forensic patients. *International Journal of Law and Psychiatry, 29* (1), 48-56.

Watson, D., Clark, L.A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

Appendix G – RMO Consent Form

University of Leicester

Responsible Medical Officer (RMO) declaration of participant capacity to consent

Title: The relative contributions of attachment style and ward climate on attachment to services in male inpatients with psychosis

Name of participant:.....

Date:.....

I am the RMO for the above named participant ☐

I can declare that this participant fulfils the inclusion criteria* and has capacity to consent at this time ☐

Signature of RMO.....

Signature of Researcher.....

*has a diagnosis of psychosis and has resided in the unit for 3 months or more

Researcher contact details: Roslyn Campbell, Department of Clinical Psychology, University of Leicester (e-mail rfc10@le.ac.uk Tel: 0116 223 1649)

Appendix H – Patient Information Sheet

University of Leicester

Patient Information Sheet

Title: A study looking at whether the ward environment or how you feel and behave around others influences how much you feel satisfied with the service you receive in the unit

Dear Participant,

You are being invited to take part in a research project. Before you decide to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask any questions regarding anything you are unsure about. It is important you take time to decide if you want to take part.

Why is this study being done?

This study aims to help mental health services, such as the unit you are currently in, in meeting the needs of inpatients with a diagnosis of psychosis. To do this, it is important to firstly find out if inpatients with psychosis feel their service is currently meeting their needs in terms of safety, comfort, and support. For example, is the unit a safe and comfortable place to be? It is also important to gather information about how inpatients with psychosis feel and behave with those around them, for example, do they find it easy to ask staff for help or do they keep themselves to themselves. This is important because if an inpatient finds it hard to ask for help and is not offered help often enough then it may take them longer to get better. It is also important to find out what inpatients think of environment of the ward they are on, for example, do they feel like the ward is a relaxed place or a difficult place to be? Again, if the ward is a difficult place to be then it may mean the inpatient is unhappy which means it may take them longer to get better.

You have been invited to take part in the study since you have a diagnosis of psychosis, and the research is interested in looking at the experiences of inpatients like you and how they feel their needs are being met in the service. Around 100 other patients with this diagnosis will be asked to participate in the study in this unit and in other medium secure units. The study will take place over a period of 9 months from July 2008 to April 2009 but you will only be asked to participate once.

It is up to you whether or not you decide to take part. If you decide not to take part then you will not lose any benefits to which you are entitled. If you do decide to take part then you will be given this Patient Information Sheet and at least 24 hours to read through the information.

If you want to take part after reading the information, you will be approached by the researcher after at least 24 hours of being given this Information Sheet. You will then be asked to sign a consent form. An appointment will then be made for the researcher to see you

on the ward and you will be asked to complete four questionnaires relating to the study. These are;

1. The Service Attachment Questionnaire (SAQ; Goodwin et al., 2003)
2. The Essen Climate Evaluation Schema (EssenCES; Schalast et al., 2008)
3. The Psychosis Attachment Measure (PAM; Berry et al., 2006)
4. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988)

These questionnaires will take approximately 30 minutes to complete. You are free to complete them yourself or the researcher can go through them with you if you would prefer. You are free to ask questions at any point throughout this research. Once the four questionnaires mentioned above are finished, your participation in the study is complete.

Whilst there are no immediate benefits to those taking part in the study, it is hoped that this work will help services and give more information about how they can provide care that is appropriate to inpatients with psychosis in the future.

A Research Ethics Committee has approved this research and believes no harm will be caused to you. However, some of the questionnaires may involve answering questions relating to your mental illness, which you may find distressing. If you become distressed throughout the session then you will be free to stop until you fell well again. An independent patient advocacy will be informed if you require further support regarding this.

All information that is collected about you during the course of this research will be kept strictly confidential, anonymous and unidentifiable. Your questionnaires will be allocated a number so that your name will not appear on them so you cannot be recognised from the data. No personal identifiable data will be held on a home computer. The results of the study may be published but you will not be identifiable in the publication. A copy of the results is available to you on request.

If you require any further information relating to this project then you can contact the researcher, Roslyn Campbell at the University of Leicester on 0116 223 1649 or e-mail rfc10@le.ac.uk

Thank you for your participation.

Roslyn Campbell

Researcher

Appendix I – Patient consent form

University of Leicester

Name of participant:

Title: A study looking at whether the ward environment or how you feel and behave around others influences how much you feel satisfied with the service you receive in the unit

Researcher: Roslyn Campbell

I agree to voluntary take part in the above research study. I have read the Participant Information sheet (which is attached to this form). I understand what my role will be in this research, and all my questions have been answered to my satisfaction. ☐

I have not been made to take part in this study and I understand that I am free to withdraw at any time, for any reason, without any penalty or loss of benefits. ☐

I have been informed that all information collected about me will be kept anonymous and confidential. ☐

I am aware I can ask questions about the study at any point. ☐

I have been provided with a copy of this consent form and the Participant Information sheet. ☐

I understand that sections of my medical notes may be looked at by regulatory authorities where it is relevant to my taking part in research. I give permission for these individuals to have access to my records. ☐

Data protection: I agree to the researcher processing information that I have supplied and I have been informed that this will be anonymised and kept confidential. ☐

Name of participant (print).....Signed.....Date.....

Name of researcher (print).....Signed.....Date.....

Researcher contact details: Roslyn Campbell, Department of Clinical Psychology, University of Leicester (e-mail rfc10@le.ac.uk Tel: 0116 223 1649)

Appendix J - Ethical approval letter

Central Manchester Research Ethics Committee
Room 181
Gateway House
Piccadilly South
Manchester
M60 7LP

Telephone: 0161 237 2166
Facsimile: 0161 237 2383

11 July 2008

Miss Roslyn Campbell
Trainee Clinical Psychologist
University of Leicester
104 Regent Road
Leicester
LE1 7LT

Dear Miss Campbell

Full title of study: **The relative contributions of attachment style and ward climate on attachment to services in male inpatients with psychosis**
REC reference number: **08/H1008/105**

Thank you for your letter of 26 June 2008, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

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

Ethical review of research sites

The Committee has designated this study as exempt from site-specific assessment (SSA. There is no requirement for [other] Local Research Ethics Committees to be informed or for site-specific assessment to be carried out at each site.

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission at NHS sites ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Approved documents

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

Document	*Version*	*Date*
Application	5.6	12 May 2008
Investigator CV	1 - Roslyn Campbell	12 May 2008
Investigator CV	Dr Steven Allan	12 May 2008
Protocol	9	12 May 2008
Peer Review	University of Leicester	
Peer Review	Dr D J Bloye	07 January 2008
Questionnaire: PANAS		
Questionnaire: Psychosis Attachment Measure (PAM)	2006	
Questionnaire: EssenCES		
Questionnaire: Service Attachment		
GP/Consultant Information Sheets	1	12 May 2008
Participant Information Sheet	2	26 June 2008
Participant Consent Form	2	26 June 2008
Response to Request for Further Information		26 June 2008
RMO Covering Letter	1	26 June 2008
Consent Form	1 - RMO	12 May 2008

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

08/H1008/105	Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely

Dr D Mandal
Chair

Email: kath.osborne@northwest.nhs.uk

Enclosures: "After ethical review – guidance for researchers"

Copy to: Mr David Clarke
Research & Development Office
Daisy Peake Building
Towers Hospital
Gipsy Lane Leicester
LE5 OTD

Appendix K – Tests for Normality (Anxiety dimension transformed)

Descriptives

			Statistic	Std. Error
AVOIDSCORE	Mean		1.4490	.05836
	95% Confidence Interval for Mean	Lower Bound	1.3328	
		Upper Bound	1.5653	
	5% Trimmed Mean		1.4466	
	Median		1.4375	
	Variance		.259	
	Std. Deviation		.50875	
	Minimum		.12	
	Maximum		3.00	
	Range		2.88	
	Interquartile Range		.62	
	Skewness		.156	.276
	Kurtosis		.449	.545
SAQTotal	Mean		72.62	1.364
	95% Confidence Interval for Mean	Lower Bound	69.90	
		Upper Bound	75.34	
	5% Trimmed Mean		72.65	
	Median		73.00	
	Variance		141.332	
	Std. Deviation		11.888	
	Minimum		42	
	Maximum		96	
	Range		54	
	Interquartile Range		16	
	Skewness		-.079	.276
	Kurtosis		-.382	.545
EssenTOT	Mean		37.92	1.036
	95% Confidence Interval for Mean	Lower Bound	35.86	
		Upper Bound	39.99	
	5% Trimmed Mean		37.75	
	Median		36.50	
	Variance		81.647	
	Std. Deviation		9.036	
	Minimum		19	
	Maximum		60	
	Range		41	
	Interquartile Range		12	
	Skewness		.363	.276
	Kurtosis		-.179	.545
ANXSCORETRAN	Mean		.8869	.04102
	95% Confidence Interval for Mean	Lower Bound	.8052	
		Upper Bound	.9686	
	5% Trimmed Mean		.8923	
	Median		.9354	
	Variance		.128	
	Std. Deviation		.35758	
	Minimum		.00	
	Maximum		1.73	
	Range		1.73	
	Interquartile Range		.40	
	Skewness		-.177	.276
	Kurtosis		.357	.545

Appendix K continued – Tests for Normality (Anxiety dimension transformed)

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AVOIDSCORE	.080	76	.200*	.989	76	.761
SAQTotal	.046	76	.200*	.987	76	.662
EssenTOT	.087	76	.200*	.982	76	.335
ANXSCORETRAN	.084	76	.200*	.981	76	.298

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Appendix L – Correlation Matrix

Correlations

		Age	Ethnicity	Length	SAQTotal	SUB1Tot	SUB2Tot	SUB3Tot	SUB4Tot	SUB5Tot	SUB6Tot	AVOIDSCORE	ANXSCORETRAN	EssenTOT	EssenPC	EssenES	EssenTH	NEGTOT
Age	Pearson Correlation	1.000	-.086	.130	.020	-.042	.136	.016	.059	-.083	.160	.034	.044	.024	.004	-.014	.064	.045
	Sig. (2-tailed)		.460	.263	.866	.718	.242	.894	.614	.476	.166	.771	.703	.839	.972	.904	.585	.698
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Ethnicity	Pearson Correlation	-.086	1.000	.205	.207	.111	.347**	.098	.096	.146	.108	.020	-.121	.027	-.068	-.046	.186	-.283*
	Sig. (2-tailed)	.460		.076	.073	.338	.002	.399	.411	.210	.355	.866	.296	.819	.560	.694	.107	.013
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Length	Pearson Correlation	.130	.205	1.000	.050	-.019	.042	-.005	.141	-.032	.032	.042	.155	.087	.066	.055	.076	-.166
	Sig. (2-tailed)	.263	.076		.665	.873	.721	.964	.226	.781	.784	.721	.180	.454	.568	.634	.512	.151
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
SAQTotal	Pearson Correlation	.020	.207	.050	1.000	.807**	.673**	.697**	.720**	.762**	.811**	-.239*	-.174	.611**	.330**	.418**	.675**	-.566**
	Sig. (2-tailed)	.866	.073	.665		.000	.000	.000	.000	.000	.000	.038	.133	.000	.004	.000	.000	.000
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
SUB1Tot	Pearson Correlation	-.042	.111	-.019	.807**	1.000	.617**	.535**	.633**	.591**	.582**	-.273*	-.068	.474**	.175	.365**	.563**	-.382**
	Sig. (2-tailed)	.718	.338	.873	.000		.000	.000	.000	.000	.000	.017	.561	.000	.131	.001	.000	.001
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
SUB2Tot	Pearson Correlation	.136	.347**	.042	.673**	.617**	1.000	.445**	.402**	.442**	.454**	-.128	-.218	.421**	.209	.266*	.511**	-.405**
	Sig. (2-tailed)	.242	.002	.721	.000	.000		.000	.000	.000	.000	.269	.059	.000	.070	.020	.000	.000
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
SUB3Tot	Pearson Correlation	.016	.098	-.005	.697**	.535**	.445**	1.000	.415**	.329**	.437**	-.222	-.257*	.273*	.115	.237*	.279*	-.467**
	Sig. (2-tailed)	.894	.399	.964	.000	.000	.000		.000	.004	.000	.053	.025	.017	.323	.039	.015	.000
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
SUB4Tot	Pearson Correlation	.059	.096	.141	.720**	.633**	.402**	.415**	1.000	.538**	.548**	-.157	.052	.482**	.286*	.301**	.526**	-.256*
	Sig. (2-tailed)	.614	.411	.226	.000	.000	.000	.000		.000	.000	.175	.657	.000	.012	.008	.000	.026
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
SUB5Tot	Pearson Correlation	-.083	.146	-.032	.762**	.591**	.442**	.329**	.538**	1.000	.721**	-.261*	-.170	.553**	.358**	.376**	.548**	-.370**
	Sig. (2-tailed)	.476	.210	.781	.000	.000	.000	.004	.000		.000	.023	.142	.000	.002	.001	.000	.001
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
SUB6Tot	Pearson Correlation	.160	.108	.032	.811**	.582**	.454**	.437**	.548**	.721**	1.000	-.167	-.076	.638**	.346**	.464**	.673**	-.408**
	Sig. (2-tailed)	.166	.355	.784	.000	.000	.000	.000	.000	.000		.149	.512	.000	.002	.000	.000	.000
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
AVOIDSCORE	Pearson Correlation	.034	.020	.042	-.239*	-.273*	-.128	-.222	-.157	-.261*	-.167	1.000	.379**	-.266*	-.221	-.218	-.170	.167
	Sig. (2-tailed)	.771	.866	.721	.038	.017	.269	.053	.175	.023	.149		.001	.020	.055	.058	.142	.148
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
ANXSCORETRAN	Pearson Correlation	.044	-.121	.155	-.174	-.068	-.218	-.257*	.052	-.170	-.076	.379**	1.000	-.187	-.112	-.219	-.097	.388**
	Sig. (2-tailed)	.703	.296	.180	.133	.561	.059	.025	.657	.142	.512	.001		.106	.334	.058	.406	.001
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
EssenTOT	Pearson Correlation	.024	.027	.087	.611**	.474**	.421**	.273*	.482**	.553**	.638**	-.266*	-.187	1.000	.805**	.757**	.738**	-.312**
	Sig. (2-tailed)	.839	.819	.454	.000	.000	.000	.017	.000	.000	.000	.020	.106		.000	.000	.000	.006
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
EssenPC	Pearson Correlation	.004	-.068	.066	.330**	.175	.209	.115	.286*	.358**	.346**	-.221	-.112	.805**	1.000	.413**	.428**	-.148
	Sig. (2-tailed)	.972	.560	.568	.004	.131	.070	.323	.012	.002	.002	.055	.334	.000		.000	.000	.201
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
EssenES	Pearson Correlation	-.014	-.046	.055	.418**	.365**	.266*	.237*	.301**	.376**	.464**	-.218	-.219	.757**	.413**	1.000	.305**	-.403**
	Sig. (2-tailed)	.904	.694	.634	.000	.001	.020	.039	.008	.001	.000	.058	.058	.000	.000		.007	.000
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
EssenTH	Pearson Correlation	.064	.186	.076	.675**	.563**	.511**	.279*	.526**	.548**	.673**	-.170	-.097	.738**	.428**	.305**	1.000	-.163
	Sig. (2-tailed)	.585	.107	.512	.000	.000	.000	.015	.000	.000	.000	.142	.406	.000	.000	.007		.159
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
NEGTOT	Pearson Correlation	.045	-.283*	-.166	-.566**	-.382**	-.405**	-.467**	-.256*	-.370**	-.408**	.167	.388**	-.312**	-.148	-.403**	-.163	1.000
	Sig. (2-tailed)	.698	.013	.151	.000	.001	.000	.000	.026	.001	.000	.148	.001	.006	.201	.000	.159	
	N	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76

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

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

Appendix M - *Zero-order correlations for all variables (n = 76; two-tailed)*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. SAQ Total	—	.81**	.67**	.70**	.72**	.76**	.81**	.61**	.33**	.68**	.42**	-.17	-.24*	-.57**
2. Subscale 1 (LISTENING)		—	.62**	.54**	.63**	.59**	.58**	.47**	.18	.56**	.37**	-.07	-.27*	-.38**
3. Subscale 2 (CONSISTENCY)			—	.45**	.40**	.44**	.45**	.42**	.21	.51**	.27*	-.22	-.13	-.41**
4. Subscale 3 (ENDING)				—	.41**	.33**	.44**	.27*	.12	.28*	.24*	-.26*	-.22	-.47**
5. Subscale 4 (SAFETY)					—	.54**	.55**	.48**	.29*	.53**	.30**	.05	-.16	-.26*
6. Subscale 5 (TALKING)						—	.72**	.55**	.36**	.55**	.38**	-.17	-.26*	-.37**
7. Subscale 6 (COMFORT)							—	.64**	.35**	.67**	.46**	-.08	-.17	-.41**
8. Essen Total								—	.81**	.74**	.76**	-.19	-.27*	-.31**
9. EssenPC (Patient Coherence)									—	.43**	.41**	-.11	-.22	-.15
10. EssenTH (Therapeutic Hold)										—	.31**	-.10	-.17	-.16
11. EssenES (Experienced Safety)											—	-.22	-.22	-.40**
12. AnxietyT Score (PAM)												—	.38**	.39**
13. Avoidant Score (PAM)													—	.17
14. Negative affect score														—

* $p < .05$; ** $p < .0$

Appendix N – Correlation of SAQ and EssenCES total

Correlations

		SAQTotal	EssenTOT
SAQTotal	Pearson Correlation	1.000	.611**
	Sig. (1-tailed)		.000
	N	76	76
EssenTOT	Pearson Correlation	.611**	1.000
	Sig. (1-tailed)	.000	
	N	76	76

**. Correlation is significant at the 0.01 level (1-tailed).

Appendix O – Correlation of SAQ, attachment avoidance and attachment anxiety

Correlations

		SAQTotal	ANXSCORETRAN	AVOIDSCORE
SAQTotal	Pearson Correlation	1.000	-.174	-.239*
	Sig. (1-tailed)		.067	.019
	N	76	76	76
ANXSCORETRAN	Pearson Correlation	-.174	1.000	.379**
	Sig. (1-tailed)	.067		.000
	N	76	76	76
AVOIDSCORE	Pearson Correlation	-.239*	.379**	1.000
	Sig. (1-tailed)	.019	.000	
	N	76	76	76

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

Appendix P – Correlation of EssenCES, attachment avoidance and attachment anxiety

Correlations

		ANXSCORETRAN	AVOIDSCORE	EssenTOT
ANXSCORETRAN	Pearson Correlation	1.000	.379**	-.187
	Sig. (1-tailed)		.000	.053
	N	76	76	76
AVOIDSCORE	Pearson Correlation	.379**	1.000	-.266*
	Sig. (1-tailed)	.000		.010
	N	76	76	76
EssenTOT	Pearson Correlation	-.187	-.266*	1.000
	Sig. (1-tailed)	.053	.010	
	N	76	76	76

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Appendix Q – Hierarchical Multiple Regression (SAQ, EssenCES and Avoidant, controlling for negative affect)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.566[a]	.321	.312	9.864	.321	34.933	1	74	.000
2	.729[b]	.531	.512	8.305	.211	16.196	2	72	.000

a. Predictors: (Constant), NEGTOT

b. Predictors: (Constant), NEGTOT, AVOIDSCORE, EssenTOT

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3399.194	1	3399.194	34.933	.000[a]
	Residual	7200.740	74	97.307		
	Total	10599.934	75			
2	Regression	5633.523	3	1877.841	27.224	.000[b]
	Residual	4966.411	72	68.978		
	Total	10599.934	75			

a. Predictors: (Constant), NEGTOT

b. Predictors: (Constant), NEGTOT, AVOIDSCORE, EssenTOT

c. Dependent Variable: SAQTotal

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	90.909	3.295		27.590	.000
	NEGTOT	-.978	.166	-.566	-5.910	.000
2	(Constant)	63.944	6.818		9.378	.000
	NEGTOT	-.711	.147	-.412	-4.829	.000
	AVOIDSCORE	-1.040	1.964	-.045	-.530	.598
	EssenTOT	.619	.115	.471	5.397	.000

a. Dependent Variable: SAQTotal

Appendix R – Partial Correlations (SAQ and EssenCES Subscales controlling for negative affect)

Correlations

Control Variables			SAQTotal	EssenPC	EssenES	EssenTH	NEGTOT
-none-[a]	SAQTotal	Correlation	1.000	.330	.418	.675	-.566
		Significance (2-tailed)	.	.004	.000	.000	.000
		df	0	74	74	74	74
	EssenPC	Correlation	.330	1.000	.413	.428	-.148
		Significance (2-tailed)	.004	.	.000	.000	.201
		df	74	0	74	74	74
	EssenES	Correlation	.418	.413	1.000	.305	-.403
		Significance (2-tailed)	.000	.000	.	.007	.000
		df	74	74	0	74	74
	EssenTH	Correlation	.675	.428	.305	1.000	-.163
		Significance (2-tailed)	.000	.000	.007	.	.159
		df	74	74	74	0	74
	NEGTOT	Correlation	-.566	-.148	-.403	-.163	1.000
		Significance (2-tailed)	.000	.201	.000	.159	.
		df	74	74	74	74	0
NEGTOT	SAQTotal	Correlation	1.000	.301	.252	.716	
		Significance (2-tailed)	.	.009	.029	.000	
		df	0	73	73	73	
	EssenPC	Correlation	.301	1.000	.390	.414	
		Significance (2-tailed)	.009	.	.001	.000	
		df	73	0	73	73	
	EssenES	Correlation	.252	.390	1.000	.264	
		Significance (2-tailed)	.029	.001	.	.022	
		df	73	73	0	73	
	EssenTH	Correlation	.716	.414	.264	1.000	
		Significance (2-tailed)	.000	.000	.022	.	
		df	73	73	73	0	

a. Cells contain zero-order (Pearson) correlations.

Appendix S – Hierarchical Multiple regression (SAQ & EssenCES Subscales PC & TH)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.566[a]	.321	.312	9.864	.321	34.933	1	74	.000
2	.818[b]	.669	.655	6.980	.348	37.897	2	72	.000

a. Predictors: (Constant), NEGTOT

b. Predictors: (Constant), NEGTOT, EssenPC, EssenTH

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3399.194	1	3399.194	34.933	.000[a]
	Residual	7200.740	74	97.307		
	Total	10599.934	75			
2	Regression	7091.965	3	2363.988	48.520	.000[b]
	Residual	3507.969	72	48.722		
	Total	10599.934	75			

a. Predictors: (Constant), NEGTOT

b. Predictors: (Constant), NEGTOT, EssenPC, EssenTH

c. Dependent Variable: SAQTotal

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	90.909	3.295		27.590	.000
	NEGTOT	-.978	.166	-.566	-5.910	.000
2	(Constant)	62.679	4.176		15.009	.000
	NEGTOT	-.809	.119	-.468	-6.786	.000
	EssenPC	.014	.224	.005	.063	.950
	EssenTH	1.907	.241	.596	7.898	.000

a. Dependent Variable: SAQTotal

Appendix T – Research Chronology

October to December 2007 (3 months):	Submission for NRES approval
July to December 2007 (5 months):	Literature search
February 2008 to May 2008 (4 months):	Ethics approval
April 2008 to May 2008 (2 months):	Liaison with units
July to December 2008 (8 months):	Data collection
February 2009 to March 2009 (2 months)	Data analysis
January 2009 to April 2009 (4 months):	Write up paper
May 2009:	Final submission

Appendix U – Instructions for authors – Journal of Mental Health

Instructions for Authors

Further information about the journal including links to the online sample copy and contents pages can be found on the journal homepage.

Journal of Mental Health is an international journal adhering to the highest standards of anonymous, double-blind peer-review. The journal welcomes original contributions with relevance to mental health research from all parts of the world. Papers are accepted on the understanding that their contents have not previously been published or submitted elsewhere for publication in print or electronic form. See the Evaluation Criteria of Qualitative Research Papers and the editorial policy document for more details.

Submissions. All submissions, including book reviews, should be made online at Journal of Mental Health's Manuscript Central site. New users should first create an account. Once a user is logged onto the site submissions should be made via the Author Centre. **Please note that submissions missing reviewer suggestions are likely to be un-submitted and authors asked to add this information before resubmitting.** Authors will be asked to add this information in section 4 of the on-line submission process.

The total word count for review articles should be no more than 6000 words. Original articles should be no more than a total of 4000 words. We do include the abstract, tables and references in this word count.

Manuscripts will be dealt with by the Executive Editor, Professor Til Wykes, Department of Psychology, Institute of Psychiatry, De Crespigny Park, London, SE5 8AF, United Kingdom. It is essential that authors pay attention to the guidelines to avoid unnecessary delays in the evaluation process. The names of authors should not be displayed on figures, tables or footnotes to facilitate blind reviewing.

Book Reviews. All books for reviewing should be sent directly to Martin Guha, Book Reviews Editor, Information Services & Systems, Institute of Psychiatry, KCL, De Crespigny Park, PO Box 18, London, SE5 8AF.

Manuscripts should be typed double-spaced (including references), with margins of at least 2.5cm (1 inch). The cover page (uploaded separately from the main manuscript) should show the full title of the paper, a short title not exceeding 45 characters (to be used as a running title at the head of each page), the full names, the exact word length of the paper and affiliations of authors and the address where the work was carried out. The corresponding author should be identified, giving full postal address, telephone, fax number and email address if available. To expedite blind reviewing, no other pages in the manuscript should identify the authors. All pages should be numbered.

Abstracts. The first page of the main manuscript should also show the title, together with a structured abstract of no more than 200 words, using the following headings: Background, Aims, Method, Results, Conclusions, Declaration of interest. The declaration of interest should acknowledge all financial support and any financial relationship that may pose a

conflict of interest. Acknowledgement of individuals should be confined to those who contributed to the article's intellectual or technical content.

Keywords. Authors will be asked to submit key words with their article, one taken from the picklist provided to specify subject of study, and at least one other of their own choice.

Text. Follow this order when typing manuscripts: Title, Authors, Affiliations, Abstract, Key Words, Main text, Appendix, References, Figures, Tables. Footnotes should be avoided where possible. The total word count for review articles should be no more than 6000 words. Original articles should be no more than a total of 4000 words. We do include the abstract, tables and references in this word count. Language should be in the style of the APA (see *Publication Manual of the American Psychological Association*, Fifth Edition, 2001).

Style and References. Manuscripts should be carefully prepared using the aforementioned *Publication Manual of the American Psychological Association* , and all references listed must be mentioned in the text. Within the text references should be indicated by the author's name and year of publication in parentheses, e.g. (Hodgson, 1992) or (Grey & Mathews 2000), or if there are more than two authors (Wykes *et al* ., 1997). Where several references are quoted consecutively, or within a single year, the order should be alphabetical within the text, e.g. (Craig, 1999; Mawson, 1992; Parry & Watts, 1989; Rachman, 1998). If more than one paper from the same author(s) a year are listed, the date should be followed by (a), (b), etc., e.g. (Marks, 1991a).

The reference list should begin on a separate page, in alphabetical order by author (showing the names of *all* authors), in the following standard forms, capitalisation and punctuation:

a) For journal articles (titles of journals should *not* be abbreviated):

Grey, S.J., Price, G. & Mathews, A. (2000). Reduction of anxiety during MR imaging: A controlled trial. *Magnetic Resonance Imaging, 18* , 351-355.

b) For books:

Powell, T.J. & Enright, S.J. (1990) *Anxiety and Stress management* . London: Routledge

c) For chapters within multi-authored books:

Hodgson, R.J. & Rollnick, S. (1989) More fun less stress: How to survive in research. In G.Parry & F. Watts (Eds.), *A Handbook of Skills and Methods in Mental Health Research* (pp. 75-89). London:Lawrence Erlbaum.

Illustrations should *not* be inserted in the text. All photographs, graphs and diagrams should be referred to as 'Figures' and should be numbered consecutively in the text in Arabic numerals (e.g. Figure 3). The appropriate position of each illustration should be indicated in the text. A list of captions for the figures should be submitted on a separate page, or caption should be entered where prompted on submission, and should make interpretation possible without reference to the text. Captions should include keys to symbols. It would help ensure greater accuracy in the reproduction of figures if the values used to generate them were supplied.

Tables should be typed on separate pages and their approximate position in the text should be indicated. Units should appear in parentheses in the column heading but not in the body of the table. Words and numerals should be repeated on successive lines; 'ditto' or 'do' should *not* be used.

Accepted papers. If the article is accepted, authors are requested to submit their final and revised version of their manuscript on disk. The disk should contain the paper saved in Microsoft Word, rich text format (RTF), or as a text or ASCII (plain) text file. The disk should be clearly labelled with the names of the author(s), title, filenames and software used. Figures should be included on the disk, in Microsoft Excel. A good quality hard copy is also required.

Proofs are supplied for checking and making essential corrections, not for general revision or alteration. Proofs should be corrected and returned within three days of receipt.

Early Electronic Offprints. Corresponding authors can now receive their article by e-mail as a complete PDF. This allows the author to print up to 50 copies, free of charge, and disseminate them to colleagues. In many cases this facility will be available up to two weeks prior to publication. Or, alternatively, corresponding authors will receive the traditional 50 offprints. A copy of the journal will be sent by post to all corresponding authors after publication. Additional copies of the journal can be purchased at the author's preferential rate of 15.00/$25.00 per copy.