REBECCA J. READ BA Hons MSc

PROFESSIONALS' ATTITUDES TOWARDS MENTAL DISORDER

Section A

Psychologists' and Psychiatrists' Attitudes towards Mental Disorder: A Systematic Review

Word Count: 5492 (959)

Section B

Psychologists' Attitudes towards Mental Disorder (including comparisons with psychiatrists)

Word Count: 7992 (355)

Section C

Critical Appraisal

Word Count: 1956 (-19)

Overall Word Count: 15,440 (1285)

A thesis submitted in partial fulfilment of the requirements of Canterbury Christ Church University for the degree of Doctor of Clinical Psychology

JULY 2012

SALOMONS

CANTERBURY CHRIST CHURCH UNIVERSITY

CANTERBURY CHRIST CHURCH UNIVERSITY
Doctorate in Clinical Psychology (D.Clin.Psychol.)

Assessment Cover Sheet for MRPs

Please read the following candidate's declaration, and tick the adjacent boxes to confirm that you have complied with each statement. Then complete the cover sheet below in full. Failing to do either will result in your assessment being delayed and/or returned to you for resubmission. Please raise any queries regarding this form with your manager well in advance of submission.

CANDIDATE'S DECLARATION

This is my own work except where I have acknowledged the work of others. I am aware that it is a breach of university regulations to copy the work of another without clear acknowledgement, and that attempting to do so will render me liable to disciplinary proceedings, both potentially through the University and my employer.	Tick to confirm ✓
I confirm that, where appropriate and feasible, consent from research participants has been sought and obtained. If consent has not been sought and/or obtained I confirm that the reasons for this have been addressed in the body of the report.	Tick to confirm ✓
I confirm that the word count cited below is exact, and within the limit allowed for this type of assessment. The count includes all free text as well as words and numbers contained in figures, diagrams and tables, quotations, footnotes etc. (though not the title page, contents page, references or appendices). I have presented the assessed work with line spacing, font size and page numbers as required in the relevant section of the assessment handbook.	Tick to confirm ✓
I confirm that I have fully anonymised the context of this piece of work, such that no clients, personnel or services are identified I am aware that should breaches of confidentiality be found, I may face both university and employer disciplinary procedures.	Tick to confirm ✓

NAME	Rebecca Read
WORK TO BE ASSESSED (e.g. Clinical Portfolio Part 1, Child PPR, QIP)	Major Research Project
SUBMISSION DATE	16/07/2012
OVERALL WORD COUNT	15,440 (1285)

DECLARATION FOR MAJOR RESEARCH PROJECT

Candidate name .Rebecca Read..... (PRINTED)

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed ..... (candidate)

Date .....

STATEMENT 1

This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by footnotes giving explicit references. A bibliography is appended.

Signed ..... (candidate)

Date .....

Signed .....
(supervisor)

Date .....

STATEMENT 2

I hereby give consent for my thesis, if accepted, to be made available to external users through the CCCU institutional repository and the British Library EThOS service, and for the title and abstract to be made available to outside organisations.

Signed ..... (candidate)

Date .....

Acknowledgements

I would like to express my gratitude to my supervisors Dr Dan Salter and Dr Matthew Broome for their consistent support. I have been fortunate to benefit from their respective expertise and willingness to facilitate my learning through open-minded discussion. I owe sincere thanks to my statistics consultant Dr Nick Moberly for his skill in making complex procedures seem less complex.

I would like to thank my friends, family, and long-suffering boyfriend for their support, for understanding and for bearing with me. Some people definitely deserve some attention now.

This thesis would not have been possible without all the trainee clinical psychologists who generously gave their precious time to participate in this research. They are greatly appreciated.

Summary of MRP Portfolio

Section A is a systematic review of psychologists and psychiatrists' attitudes to mental disorder. Attitudes to specific aspects of mental disorder are investigated as indicators of implicit model adherence. The review concludes that the differing patterns of attitudes found between the professions can be partially understood in terms of existing models but further research is required.

Section B is an empirical paper reporting the outcomes of an online survey of trainee clinical psychologists' attitudes towards mental disorder. The survey builds on a pilot study conducted by Harland et al. with psychiatrists (2009). Tentative comparisons are made. The study findings suggest fundamental differences in the way psychologists and psychiatrists conceptualise mental disorder. A greater emphasis on multidisciplinary training initiatives is recommended.

Section C is a critical appraisal including reflections on the process of undertaking this project. Key learning points, possible changes, clinical practice implications/recommendations, and future research possibilities, are considered.

Contents

Section B

Psychologists' Attitudes towards Mental Disorder

(including comparisons with psychiatrists)

Section C

Critical Appraisal

Section D

Appendices

List of Tables

List of Figures

REBECCA J. READ BA Hons MSc

PROFESSIONALS' ATTITUDES TOWARDS MENTAL DISORDER

Section A:

Psychologists' and Psychiatrists' Attitudes towards Mental Disorder:
A Systematic Review

Word Count: 5492 (959)

JULY 2012

SALOMONS
CANTERBURY CHRIST CHURCH UNIVERSITY

Abstract

Background. Anecdotal and academic speculation suggests that clinical psychologists and psychiatrists may hold differing attitudes towards mental disorder, indicating differences in implicitly held models of mental disorder. The models of mental disorder we hold inform all aspects of theory and practice. Professional differences in model adherence pose a threat to effective practice. The present review investigates the complexities of professionals' allegiances to models of mental disorder by examining specific attitudes as indicators of implicit model adherence. The following questions are addressed: 1) do the attitudes of psychologists and psychiatrists differ, and 2) if so, how can these difference best be understood?

Method. A systematic electronic keyword search using PsycINFO, Medline, Web of Science, and EBM Reviews, was conducted to identify relevant literature. Of 3527 records screened, sixteen papers were included in the present review.

Results. Findings suggest that the attitudes of psychologists and psychiatrists continue to differ although some areas of agreement were found.

Conclusions. The pattern of findings suggests differing implicit model adherence that can be partially understood in terms of existing models. However, further research is required to better understand and address this important subject. Clinical implications and suggestions for future research are provided.

1. Introduction

There has been a history of speculation, anecdotal and academic, regarding the differing attitudes of clinical psychologists (here on referred to as psychologists) and psychiatrists towards mental disorder (e.g. Kingsbury, 1987; Rabkin, 1972). Whilst, early findings varied and lacked a strong theoretical basis, studies by Morrison and colleagues consistently suggested the attitudes of members of these professions could best be understood as being underpinned by a medical-psychosocial ideological continuum (e.g. Morrison & Hanson, 1978; Morrison & Nevid, 1976). As such, psychiatrists tended towards the medical end of the continuum as defined by Blaney (1975). Specifically, psychiatrists' attitudes were congruent with a) mental disorders being organic diseases, b) symptoms being manifestations of underlying organic dysfunction, c) the mentally ill individual having no responsibility for his/her behaviour, and d) diagnostic procedures providing the best way of understanding psychiatric symptoms. Psychologists by comparison, made more use of psychosocial factors in their understanding of mental disorder, were more likely to reject the medical model position, and were more sympathetic to ideas such as the myth of mental illness (Szasz, 1974).

Morrison's findings make sense within the historical and political context of his work. Psychiatry training, as a specialism following medical training, was dominated by the medical paradigm which, in the 1970s, placed a strong emphasis on mental disorder as a biological illness as described by Blaney (1975). Psychology is both an academic and applied discipline of which clinical psychology is but one of many branches (including social, cognitive, and behavioural psychology). Whilst not ignoring the medical and biological paradigms, psychology in the 1970s recognised the field of social psychology, humanistic

psychology had been founded, behavioural therapy had grown out of behavioural psychology, and Aaron Beck was developing cognitive therapy (to name but a few influential factors). As such, the field of psychology provided a relatively broad foundation for specialist clinical training when compared to the field of medicine as conceived in the 1970s. Furthermore, after Szasz' publication of his critique of the medical paradigm in 1961 (Szasz, 1974) had opened the floodgates for anti-medical views maintaining the medical model gave its proponents unwarranted political and moral power (e.g. Laing, 1997). Morrison and Gregory (1978), argue psychologists may have lent towards such anti-medical views to change power relations by undermining psychiatry as by far the most influential profession in the mental health establishment at that time. They suggest this may have been a means of gaining more clinical, legal, and administrative power specifically for the profession of psychology.

Mental health service provision has changed dramatically since the 1970s. It is increasingly important that the mental health professions work together effectively. This is because the move to community care (which began in the 1950s-60s) has seen the multi-disciplinary team approach become well established as the preferred mode of service delivery (Malone, Marriott, Simmonds, & Tyrer, 2010). The rationale being the complex psychological and social needs of the service user can best be addressed by a wide range of professionals (psychiatrists, psychologists, social workers, occupational therapists, etc.) working together to share respective expertise and resources, combining differing approaches and explanatory models in a constructive way (Ovretveit, 2000). Evidence suggests effective multidisciplinary team working can be beneficial for service users and team members alike (Onyett & Ford, 1996).

Psychiatrists have called for revision of the medical model and recognition of psychiatry as "a medical speciality in which the specialist understands and uses the holistic

bio-psychosocial approach" (Shah & Mountain, 2007, p376). Whilst current training in both professions focusses on the respective professions' specific area of expertise, it also reflects a shared emphasis on a bio-psychosocial approach and evidence based practice (Clearing House for Postgraduate Courses in Clinical Psychology, 2011; Health and Care Professions Council, 2012; Royal College of Psychiatrists, 2012). Whilst psychiatrists traditionally took leadership roles as described above, psychologists are increasingly expected to share this responsibility as similarly highly trained professionals (National Institute for Mental Health in England, 2007). These indications of shared aims, responsibilities, and broad theoretical approach, might suggest the attitudes of psychologists and psychiatrists towards mental disorder have become less disparate since the 1970s. However, contemporary mental health services have been described as "marked by fragmentation, competing priorities, arbitrary divisions of responsibility, inconsistent policy, unpooled resources and unshared boundaries" (Hannigan, 1999, p25). However, recent research suggests attitudes continue to differ significantly. For example, Hannigan (1999) suggested the different professions hold fundamentally different ways of understanding mental disorder, for example placing varying degrees of emphasis on the discrete elements of the biopsychosocial model of mental disorder, and that these differences are linked to ineffective and inefficient multidisciplinary working.

The understandings or models of mental disorder we hold inform all aspects of theory and practice (Kleinman, 1988). Models held in the research community can influence attitudes regarding direction and focus of research. For example, the extent to which funding is dedicated to exploring genetic or psychosocial aetiology. Likewise, the differing models held amongst healthcare professionals can be reflected in differing attitudes regarding management of mental disorder (Morrison & Hanson, 1978). For example, a medical model might suggest diagnosis is a useful step towards alleviating distress whereas a more

psychosocial model might hold diagnosis constitutes unhelpful labelling and suggest addressing social inequalities as a priority. Thus, differing models of mental disorder can suggest conflicting courses of action (behaviour) with the same goal. It is easy to see how the expression of implicitly held models of mental disorder, in the form of contradictory attitudes towards aspects of clinical theory and practice, may lead to conflicting approaches to clinical practice and confusion for, or even harm to, the service user (e.g. Colombo, Bendelow, Fulford, & Williams, 2003).

Thus, whilst potentially rich and fruitful, combining approaches constructively in multidisciplinary team working presents challenges for mental health professionals, particularly concerning the establishment and maintenance of collaborative relationships, shared decision-making, and conflict management and resolution (Pecke & Norman, 1999). It has been suggested the professions are frequently divided according to the culture of their discipline, and a uniting philosophy is lacking (Norman & Peck, 1999). Psychologists and psychiatrists, as influential multidisciplinary team members who must be able to work together effectively, are far from exempt from these challenges. Their generally high position in the hierarchy of mental health professionals, makes them the subject of this review.

Improving understandings of where differences in approach lay is an important step towards being able to formulate ways of managing difference constructively. Examining attitudes is one way to approach this task. The author appreciates many other factors (such as power dynamics) may influence how differences manifest in the work place. However, establishing theory on attitude differences might contribute to a model explaining how these attitudes are expressed in practice e.g. in the context of power dynamics in shared decision making. Ajzen's theory of planned behaviour might be employed to these ends (1991). Attitude research has shown general attitudes are rarely good predictors of specific behaviour

(Ajzen & Fishbein, 1977). Evidence of the predictive power of attitudes on behaviour in mental health care is scarce (Wicker, 1969), but not non-existent (Canter, 1963; Cohen & Struening, 1964; Ellsworth, 1965). The attitude-behaviour relationship is complicated and varies with attitudes measured, method of measurement, prevailing treatment philosophy, and the mental disorder in question (Rabkin, 1972). Thus specific attitudes must be examined as a first step to providing meaningful insight into how practitioners are likely to behave in specific circumstances. By examining specific attitudes, meaningful and useful general attitude patterns or underlying dimensions of attitude, which may indicate implicit model adherence (e.g. biological, psychological, or social), may be established: an aim of this review.

Whilst Morrison's findings may reflect an overall trend in general attitudes, the medical-psychosocial continuum is perhaps too crude to be useful in explaining/predicting the conflicts/contradictions arising in practice, especially in light of the apparent converging of aims, responsibilities, and broad theoretical approach discussed above. Even if psychologists continue to be more psychosocial in their understanding of mental disorder, this does not explain the complexity of attitudes to specific aspects/dimensions of mental disorder (aetiology, treatment, etc.). A given professional may hold apparently conflicting models simultaneously, expressing them selectively (or haphazardly) in specific circumstances. Thus, it is necessary to take a second, more detailed look at contemporary attitudes of psychologists and psychiatrists: the purpose of this review.

The present review aimed to answer the following questions; 1) do the attitudes of psychologists and psychiatrists continue to differ and 2) if so, how can these difference best be understood? A detailed examination of psychologists' and psychiatrists' current attitudes towards mental disorder is provided by investigating specific attitudes as potential indicators of implicit model adherence. This is achieved through a systematic review of the recent

literature (1991 onwards) examining psychologists' and psychiatrists' attitudes regarding specific aspects of mental disorder such as aetiology, diagnosis, treatment, and prognosis. See Appendix A for the Method section for this review (including eligibility criteria for studies included in this review). Clinical and research implications are discussed in the Discussion section. It was beyond the scope of this review to examine all the variables significant in understanding professionals' attitudes in detail; however some indication of findings for variables besides profession is provided.

2. Results

2.1. Descriptive Characteristics of Eligible Studies

Sixteen papers were found eligible for inclusion. A flow diagram depicting selection process is provided in Appendix B. A table summarising the studies together with their limitations is provided in Appendix C. Studies were conducted across thirty-one different countries. Fifteen included participants from groups besides psychologists and psychiatrists (e.g. other mental healthcare professionals and laypeople). Sample sizes varied widely, group sizes ranged from six to 1128. All studies used survey methodology and relied on self-report data (discussed in 3.2. Limitations). The minority of studies used standardised measures, the majority used newly developed vignette and/or questionnaire based instruments, frequently utilising Likert scales.

2.2. Results Synthesis

The response variables investigated by the studies reviewed fell into six main research themes, or domains of attitude research, which were used accordingly to organise the synthesis of findings under six subheadings as follows: Attitudes towards individuals with a psychiatric diagnosis (3.2.1), Attitudes regarding aetiology (3.2.2), Attitudes regarding diagnosis (3.2.3), Attitudes regarding treatment approaches (3.2.4), Attitudes regarding prognosis (3.2.5), and Epistemological attitudes (3.2.6). A summary of findings in these attitude domains is given below together with methodological limitations. Studies investigating multiple response variables are included under multiple subheadings as appropriate.

2.2.1. Attitudes towards individuals with a psychiatric diagnosis

Four studies (Gilchrist et al., 2011; Höglund, Levander, Anckarsäter, & Radovic, 2009; Nordt, Rössler, & Lauber, 2006; Wahass & Kent, 1997) investigated professionals' attitudes towards individuals with psychiatric diagnoses in terms of regard for working with different patient groups, views regarding accountability of individuals with mental disorder, and "stigmatising attitudes" (including social distancing). None of these studies appeared to use standardised measures (no psychometric information was reported); meaning the validity and reliability of findings is questionable.

Gilchrist et al. (2011) investigated regard for working with different patient groups (substance and alcohol misusers, and patients with depression and diabetes) among different professional groups (physicians [n=224], psychiatrists [n=181], psychologists [n=144], nurses [n=229], and social workers [n=67]). Regard was conceptualised in terms of views on

treatability, worthiness of care/treatment, and enjoyment of working with patient groups. All professions showed significantly lower regard for working with substance and alcohol misusers than for working with depressed patients or those with diabetes. Substance misusers received the lowest regard. Differences were found by profession; psychologists reported higher regard for working with substance and alcohol misusers than did psychiatrists, and similar regard for working with depressed and diabetic patients to psychiatrists. Differences were also found by country (Bulgaria, Greece, Italy, Poland, Scotland, Slovakia, Slovenia and Spain), and treatment entry point (primary care, general psychiatry, or specialist addiction services) for all patient groups. Differences were found for length of professional career for substance misusers and those with diabetes. No differences were found by sex or age of professional. Whilst the sample size used was large, convenience sampling reduced the likelihood of a representative sample, limiting generalizability of findings.

Höglund et al. (2009) investigated professionals' attitudes to the accountability (defined in terms of self-awareness, moral insight, and self-control) of persons with a psychiatric diagnosis. Professionals indicated a wide range of mental disorders reduced accountability (to generally substantial but varying degrees). Differences between professions (psychiatrists [n=30], nurses [n=30], ward staff [n=45], and psychologists [n=45], all from forensic psychiatric clinics) were only found for borderline and antisocial personality disorders, and psychopathy. Participants from professions with short or medium length training (nurses and ward staff) rated persons diagnosed with personality disorders as much lower in accountability than did participants from professions with long training. As such, psychiatrists and psychologists gave similar ratings of accountability across diagnostic categories. This study used a moderate sample size but appeared to have significant methodological limitations potentially biasing findings; no information was reported regarding the sampling method, sample size rational, demographic characteristics of

participants or the potential pool of participants, or the way in which missing data or the unbalanced design was accounted for in analysis.

Two studies (Nordt et al., 2006; Wahass & Kent, 1997) explored attitudes referred to as "stigmatising" (including social distancing) among professionals. Nordt et al. (2006) investigated attitudes towards people with mental disorder among psychiatrists [n=201], psychologists [n=66], nurses [n=676], other therapists [n=116], and the general population [n=253], in terms of negative stereotyping, willingness to restrict rights, and social distancing. Psychiatrists indicated a greater degree of negatively stereotyping views than did psychologists. Sex of participant was not related to stereotyping but younger people expressed a greater degree of negative stereotyping than did older. Differences were found between professions among attitudes to restriction but psychologists and psychiatrists gave similar responses. Agreement was also found regarding social distancing. No sex differences were found regarding restriction but age differences were found. Differences were found in social distancing between diagnostic categories (depression and schizophrenia). This study benefited from a large sample size with appropriate compensation for the unbalanced design. However, data was collected from professionals five years after that collected from the general public, introducing possible bias. For example, in a five year period, media coverage of mental disorder or political policy may have changed in such a way as to alter attitudes meaning an unfair comparison was made. Interestingly, a low response rate was reported which was not explored. This is particularly pertinent given the arguably controversial nature of the survey. Findings may have been biased if persons perceiving their attitudes to be less socially acceptable were disinclined to participate.

Wahass and Kent (1997) compared social distancing from people who experience auditory hallucinations among psychologists [n=95] and psychiatrists [n=98] in Saudi Arabia and the UK. These professionals differed by country, but professionals from the same

country tended to agree. This study appeared relatively robust methodologically although the sample size was not large given the analysis performed and no power calculation was reported.

2.2.2. Attitudes regarding aetiology

Two studies (Haugen, Tyler, & Clark, 1991; Wahass & Kent, 1997) investigated professional's attitudes regarding aetiology in terms of the perceived causal associations. Haugen et al. (1991) compared psychoanalysts (n=69), psychiatrists (n=73), psychologists (n=107), and social workers (n=108), on their perceptions of the association between various personal qualities and poor mental health. They found psychologists perceived high levels of untrustworthiness to be more indicative of poor mental health than did psychiatrists. They found no significant differences between the psychologists and psychiatrists regarding self-acceptance, negative traits, achievement, affective control, good interpersonal relations, religious commitment, and unconventional reality. Sex differences were found. No compensation for the unbalanced, non-equivalent group design was reported, or for the method of managing missing data, but the study appeared otherwise relatively methodologically robust.

Wahass and Kent (1997) surveyed professionals' opinions regarding aetiology in terms of various causal factors that might be associated with auditory hallucinations. They found responses varied according to the professionals' country (UK or Saudi Arabia) but professionals from the same country tended to agree. See 2.2.1. for methodological limitations.

2.2.3. Attitudes regarding diagnosis

Four studies (Dorahy & Lewis, 2002; Jacobs, Kline, & Schiffman, 2011; Liu, Chang, Tseng, Lai, & Hwu, 2010; Wahass & Kent, 1997) reported data concerning attitudes to

diagnosis in terms of diagnosing sub-threshold psychosis/prodromal schizophrenia/attenuated psychosis syndrome (APS), dissociative identity disorder (DID), and auditory hallucinations. None of these studies appeared to use standardised measures suggesting limitations as discussed above.

Two studies (Jacobs et al., 2011; Liu et al., 2010) investigated professionals' attitudes to diagnosing APS. Jacobs et al. (2011) compared the attitudes of psychologists (n=130), psychiatrists (n=98), and general practitioners (n=72). No differences were found regarding the decision to diagnose. Psychiatrists were more likely to diagnose APS as schizophrenia, another psychotic disorder, or substance abuse, whereas psychologists were more likely to diagnose APS as an adjustment disorder or to defer judgment. This study reported an unexplored low response rate, suggesting possible social desirability bias as discussed above. Liu et al. (2010) compared the attitudes of psychologists (n=44), psychiatrists (n=57), and school counsellors (n=50). Psychiatrists were found more likely to consider schizophrenia for all stages of clinical severity than were psychologists. No differences for sex and age of professionals were found. Differences were found for years of experience with clients with schizophrenia. No compensatory analysis strategy was reported for the non-equivalent group design, but this moderate sized study appeared otherwise relatively methodologically sound.

Dorahy and Lewis (2002) investigated attitudes to diagnosing DID. Psychiatrists (n=58) and psychologists (n=28) perceived themselves to be similarly familiar with DID diagnostic criteria. Psychiatrists were less likely to believe in the existence of DID than were psychologists. Psychiatrists were more likely to attribute the surge in prevalence of DID to factitious presentations and misdiagnosis than were psychologists. Psychologists were more likely to attribute the surge to accurate diagnosis or to report uncertainty regarding explanation. However, no compensatory analysis strategy was reported for managing

missing data or the unbalanced, non-equivalent group design. Given group sizes this significantly undermines findings.

Wahass and Kent (1997) investigated attitudes to diagnosing auditory hallucinations and found agreement between psychologists and psychiatrists as to the diagnostic categories associated with auditory hallucinations. See 2.2.1. for methodological limitations.

2.2.4. Attitudes regarding treatment approaches

Seven studies (Heinze & Cortes, 2005; Heinze, Torres, & Cortes, 1999; Jorm et al., 1997; Meredith, Wells, & Camp, 1994; Nolan, 1995; Steinert, Lepping, Baranyai, Hoffmann, & Leherr, 2005; Wahass & Kent, 1997) investigated attitudes to treatment approaches (pharmacological vs. psychotherapeutic approaches, compulsory admission, a range of treatment approaches, and the community mental health approach). Only one of these studies reported both reliability and validity properties of instruments used (Nolan, 1995), two (Wahass & Kent, 1997; Jorm et al., 1997) reported neither.

Four studies (Heinze & Cortes, 2005; Heinze et al., 1999; Meredith et al., 1994; Wahass & Kent, 1997) investigated attitudes to pharmacological vs. psychotherapeutic treatment (or a combined approach) among professionals. When comparing psychiatrists (n=668 and 112), psychologists (n=391 and n=33), and physicians (n=809 and 46), for a wide range of diagnostic categories, Heinze and Cortes (2005), and Heinze et al. (1999), both found treatment preferences varied by diagnostic category and profession. Psychologists and psychiatrists agreed in preferring a combined approach for depression, and a psychotherapeutic approach for personality disorders. For anxiety disorders, substance related disorders, and eating disorders, psychologists were more likely to favour a psychotherapeutic approach where psychiatrists were more likely to favour a combined approach. For schizophrenia and bipolar disorders, psychologists were more likely to favour

a combined approach, whereas psychiatrists were more likely to favour pharmacological management of schizophrenia and bipolar disorder. Psychiatrists tended to see psychoactive drugs as effective, good treatment alternative, whereas psychologists were more likely to see medication as more damaging than beneficial. Psychiatrists and psychologists tended to agree prescription practices were poor. Findings of both these studies may have been biased because the unbalanced, non-equivalent, groups used were not accounted for in the analysis. Furthermore, no information regarding response rate was provided for either study so the findings may be unrepresentative. However, the convergence of findings and large sample sizes lends support to findings.

Wahass and Kent (1997) found psychiatrists showed more faith in the efficacy of pharmacology and less faith in psychotherapy in treating auditory hallucinations than did psychologists, and found agreement for combined approaches. Psychiatrists rated the input of psychology as valuable for fewer patients experiencing auditory hallucinations than did psychologists. The disciplines agreed on the importance of psychiatry in the UK but Saudi Arabian psychologists rated the input of psychiatry as less important than did their colleagues in psychiatry. See 2.2.1. for methodological limitations. Likewise for depression, Meredith et al. (1994) found when psychiatrists (n=76) and psychologists (n=74) were compared with family physicians (n=91), medical subspecialists (n=64), internists (n=194), and other therapists (n=24), psychiatrists reported the strongest preference for prescribing antidepressants, whereas psychologists reported the weakest preference. Agreement was found for preference for a combined approach. This appeared one of the most methodologically robust studies, limited only by the lack of reliability analysis of the tool used, and the reliance on self-report data (common for all studies).

Steinert et al. (2005) investigated professionals' (psychologists [n=73], psychiatrists [n=298], physicians [n=80], social workers [n=107], nurses [n=427]) and laypeople's

(n=752) attitudes towards compulsory admission and treatment for schizophrenia in England, Germany, Hungary, and Switzerland. Psychiatrists were found to be more in favour of compulsory procedures than were psychologists. Differences were also found by country. Professionals' personal experience of mental disorder was non-significant. Whilst methods for accounting for the unbalanced, non-equivalent group design, and missing data were not reported, the sample was large. However, findings could not be generalised to general populations because people with personal experience of mental disorder were over represented.

Jorm et al. (1997) investigated professionals' (general practitioners [n=872], psychiatrists [n=1128], psychologists [n=454]), and laypeople's [n=2031] attitudes toward the helpfulness of a range of treatments. Attitudes varied according to disorder (depression or schizophrenia) and profession. The largest differences for schizophrenia were in psychiatrists' ratings of cognitive behavioural therapy as less helpful, and electroconvulsive therapy as more helpful, than psychologists' ratings of the same. For depression, the largest difference between the ratings of psychiatrists and psychologists suggested psychiatrists felt a person trying to deal with their problems alone was more unhelpful than did psychologists. The large sample size obtained may compensate for the unbalanced, non-equivalent group design if no appropriate strategy was used in the analysis (non-reported).

Nolan (1995) investigated professionals' (psychologists [n=6], psychiatrists [n=33], psychiatric nurses [n=18], nurses [n=32], occupational therapist [n=20]) levels of commitment to community mental health ideology. Psychiatrists were found to show the least level of commitment and psychologists showed the highest. This study did not appear methodologically robust since no rational was provided for the small sample size, the low response rate was unexplored, and no strategy for managing missing data or the unbalanced and non-equivalent group design was reported.

2.2.5. Attitudes regarding prognosis

Jorm, Korten, Jacomb, Christensen, and Henderson (1999) investigated attitudes regarding prognosis in terms of positive and negative outcome and discrimination predictions. In relation to vignettes describing persons with symptoms of either schizophrenia or depression, Jorm et al. (1999) found effects of profession, disorder, age of professional, and service type (private, salaried, mixed). The professions agreed regarding the likelihood of positive outcomes for depression. Psychologists (n=454) rated negative outcomes for depression and for schizophrenia as less likely than did psychiatrists (n=1128). Psychologists rated positive outcomes for schizophrenia as more likely than did psychiatrists. Psychologists were less likely to predict discrimination for depression than were psychiatrists. The professions agreed regarding discrimination for schizophrenia. Responses did not vary according to the sex of the patient or professional, or according to the frequency at which the professional had contact with patients experiencing symptoms similar to those represented in the vignettes. A standardised measure was not used. The sample size was large which may have compensated for the apparent lack of rigour in the analysis, allowing some cautious faith in general conclusions.

2.2.6. Epistemological attitudes

Wyatt and Livson (1994) investigated professionals' epistemological attitudes to mental disorder in terms of the implicit models they used to understand mental disorder. They investigated practitioner positions within the domains of the medical and psychosocial models of mental disorder. They found responses varied according to attitudes to six distinctive factors; 1) medical ideology: the "literal belief mental disorders are like physical disorders and psychotherapy is better described as a medical treatment than as a form of self

education", 2) psychosocial perspectives: "the importance of psychotherapy and client autonomy, as well as the view psychopathology exists on a continuum", 3) biogenetic psychopathology: "the aetiology of certain psychopathologies [...] is determined by biochemical and genetic influences", 4) diagnosis: "the importance of diagnosis for successful treatment and psychotherapy, and [...] the objectivity and utility of diagnosis for understanding the emotionally disturbed", 5) drug treatment: support for medical and drug oriented treatments, and 6) socio-cultural values: "egalitarian practitioner roles as well as the importance of social, cultural, historical, and life experiences" (all quotes from Wyatt & Livson, 1994).

The professions agreed regarding the socio-cultural values factor, which suggested they endorsed these values to a similar degree. The professions significantly differed on the other five factors, psychiatrists (n=69) always in a less psychosocial or more medical direction than the psychologists (n=82). Responses were relatively similar for four of these five factors. The only clear divide was for the medical ideology factor, which suggested psychiatrists tended to endorse the literal belief mental disorders are like physical disorders, and psychotherapy is better described as a medical treatment than as a form of self-education. As a group, psychologists were found to be more homogeneous than were psychiatrists. Differences were also found for years of professional experience and for theoretical orientation. No differences were found for sex of professional, weekly hours of direct patient contact, work setting, or level of disturbance of patients worked with. This appeared to be the most methodologically robust study reviewed, limited only by reliance on self-report data (as for all studies) and a low but acceptable response rate.

3. Discussion

3.1. How do the Attitudes of Psychiatrists and Psychologists Differ?

The present review aimed to provide an understanding of psychologists and psychiatrists' attitudes to mental disorder in terms of implicit model adherence by examining studies surveying these professionals' attitudes towards specific aspects of mental disorder. Sixteen studies were identified covering six domains of attitude research: attitudes towards individuals with a psychiatric diagnosis, regarding aetiology, diagnosis, treatment approaches, prognosis, and epistemological attitudes. The attitudes of psychologists and psychiatrists were found to differ in all six domains. Whilst some areas of similarity were found within the six domains, these were in the minority. Hence, this review suggests that, in accordance with previous research (e.g. Morrison & Hanson, 1978); the attitudes of clinical psychologists and psychiatrists towards mental disorder continue to differ, indicating differences in implicit model adherence. Whilst differing models of mental disorder may be considered different languages used to describe the same phenomenon, the behaviour indicated by the application of differing models is likely to be different (e.g. to diagnose or not, or to research genetics or social factors). Thus, the mixing of incompatible and contradictory models in the workplace has the potential to lead to conflicting approaches to clinical practice and cause confusion in both the patient and the practitioner (Colombo, Bendelow, Fulford, & Williams, 2003). Some evidence regarding differences within professions was also found when investigated; Wyatt and Livson (1994) found psychiatrists were less homogenous in their attitudes as a group than were psychologists. Future research should be mindful of this and investigate such within group differences where feasible.

Discussion follows as to how the differences and areas of agreement between professions which have been identified by the present review can best be understood.

Morrison's theory that the attitudes of psychologists and psychiatrists towards mental disorder can be understood as being underpinned by a medical-psychosocial ideological continuum (Morrison & Hanson, 1978; Morrison & Nevid, 1976) is broadly supported by this review. For example, studies included in this review falling within the dimension of treatment preferences (the category containing the most studies, and some of the more methodologically robust studies) consistently suggested psychiatrists are more in favour of, and have more faith in, psychopharmacology, than psychologists, both in general and in relation to specific diagnostic categories. By comparison, results suggest psychologists favoured, and had more faith in, psychotherapy, both in general and in relation to specific diagnostic categories. However, indication of agreement regarding preference for and faith in, a combined approach to treatment suggests the professions are not diametrically opposed on the continuum. Furthermore, the study finding psychologists and psychiatrists in the UK agreed regarding the importance of psychiatry in the treatment of auditory hallucinations (Wahass & Kent, 1997), suggests both professions value the role of psychiatry in treatment at least in some circumstances, and to some extent. Interestingly, similar agreement was not found regarding the role of psychology.

Whilst a medical-psychosocial ideological continuum holds some explanatory promise, it does not seem to capture the complexities of the results of this review. A greater number of the findings can be understood using the more complex, six-factor model proposed by Wyatt and Livson (1994), whose study was included in this review and appeared the most methodologically robust (see 3.2.6. Epistemological attitudes). Wyatt and Livson's (1994) model incorporates medical ideology, psychosocial perspectives, biogenetic psychopathology, diagnosis, drug treatment, and socio-cultural values, in explaining

professionals' attitudes. The findings of the present review suggested by some of the more methodologically robust studies concerning socio-cultural values in particular are not obviously explained by a medical-psychosocial ideological continuum. Wyatt and Livson (1994) found psychiatrists and psychologists tended to express attitudes suggestive of similar social, cultural, and egalitarian values. Thus, the six-factor model explains a considerable number of the results where the attitudes of psychiatrists and psychologists were found to be similar, e.g. the suggested agreement between the professions regarding some aspects of willingness to restrict the rights of, and social distancing from, individuals with a psychiatric diagnosis.

Some of the findings of the more methodologically robust studies reviewed could be interpreted as contradicting Wyatt and Livson's (1994) findings concerning socio-cultural values as agreement was not always found between the professions. For example, evidence was found that psychiatrists expressed a greater degree of negative stereotyping of people with a psychiatric diagnosis than did psychologists, and psychologists were found to perceive high levels of untrustworthiness to be more indicative of poor mental health than were psychiatrists. Thus, Wyatt and Livson's (1994) six-factor model cannot fully account for the findings of this review. Furthermore, the six-factor model does not account for the findings falling within the domain of prognosis because this domain does not form part of Wyatt and Livson's (1994) model. It is recommended the first five of the six attitude domains revealed by the present review (attitudes towards individuals with a psychiatric diagnosis, regarding aetiology, regarding diagnosis, regarding treatment approaches, and regarding prognosis) should be investigated in future research seeking to investigate underlying epistemological differences in the attitudes of psychologists and psychiatrists (the sixth dimension revealed by this study). This is because the literature reviewed demonstrates differences are found within these five dimensions. Hence, their investigation can inform an inclusive understanding of

the differences in psychiatrists' and psychologists' concepts of mental disorder. Appropriate statistical analysis may reveal significant underlying factors/dimensions capturing epistemological attitudes more comprehensively than any existing model.

Whilst a strength of Wyatt and Livson's (1994) six-factor model is its basis in a study using a standardised questionnaire, The Mental Health Questionnaire (MHQ; Wyatt, 1989), a potential limitation is the MHQ was constructed to elicit attitudes consistent with the psychosocial and medical models only. Therefore, attitudes consistent with for example, the cognitive or psychodynamic models could not easily be captured. Attitudes are thought to be formed and influenced by both direct and indirect experience of an attitude object (Perloff, 2010). For example, an attitude regarding the diagnostic category of schizophrenia may be informed by media coverage. Therefore, it is recommended standardised measures are developed to capture attitudes consistent with a comprehensive range of possible models. One such questionnaire, the Maudsley Attitude Questionnaire (MAQ), was developed by Harland et al. (2009) for their study of psychiatrists' concepts of mental illness. The MAQ was constructed to elicit attitudes consistent with social constructionist, social realist, cognitive, psychodynamic, behavioural, biological, nihilist, and spiritualist understandings of mental disorder.

The interpretation of certain findings of the present review may be vulnerable to bias. For example, findings such as psychologists rating negative outcomes following depression and schizophrenia as less likely than psychiatrists (Jorm et al., 1999; a relatively methodologically sound study), might be interpreted as idealism or unwarranted optimism on the part of psychologists, or as pessimism or cynicism on the part of psychiatrists. Alternatively, such findings may reflect the differing roles held by the professions. It may be psychiatrists see more relapses than psychologists, who may by comparison tend to work with a client until there is a sense of improvement and then discharge. It may be psychiatrists

see more people whose mental health difficulties are at their most acute (due to sectioning and prescribing duties), than psychologists. Thus, differing attitudes may reflect differing perceptions of mental disorder based on differing real-world experiences. This area could be explored further with future research. It would be particularly interesting to conduct research investigating the attitudes of the public towards mental disorder from this perspective.

Besides profession, this review suggests patient group/diagnostic category, severity of condition, years of professional experience, country/culture, and theoretical orientation, may also be significant explanatory variables at least in certain attitude domains. Professionals' personal experience of mental disorder, frequency of contact with clients/patients, sex of client/patient, and level of disturbance worked with, did not appear to be significant explanatory variables where investigated. Conflicting evidence regarding the significance of age and sex of professional, and service setting, was found dependant on the attitudes explored suggesting multiple variables may influence attitudes in varying ways. It should be noted the present review did not aim to investigate explanatory variables besides profession in a systematic way and the methodological robustness of relevant studies varied widely; therefore, firm conclusions cannot be drawn. However, it was noted studies' investigations of explanatory variables besides profession were heterogeneous. It is recommended future research should systematically investigate a range of potential explanatory variables informed by a priori theory. This would both be informative and allow comparisons between studies to be more easily drawn.

3.2. Limitations

In evaluating the results of individual studies and of this review as a whole, it should be remembered measuring attitudes is notoriously difficult. The concept of attitude is a construct, we cannot measure attitudes directly, and so we rely on inference (Henerson, Morris, Fitz-Gibbon, California, & Evaluation, 1987). The conceptual framework linking attitudes to underlying epistemological understandings in clinical theory and practice must likewise be constructed and rely on inference. The author acknowledges the potential influence of other factors influencing the attitudes of psychologists and psychiatrists, such as dynamic power relationships (Lupton, 1994). Furthermore, much research has shown the link between attitudes and behaviour is not straightforward (e.g. Ajzen & Fishbein, 1977). Thus, understanding professionals' attitudes can only take us part way towards understanding how they behave, interact, or practice their professions. Further research is required to gain a more sophisticated understanding of the role of attitudes in predicting behaviour, for example by employing a model such as Ajzen's theory of planned behaviour (1991).

The individual studies included in this review were of varying quality and hence various methodological limitations and potential areas of bias must be taken into account when considering the impact of individual studies (see Appendix C for a summary of limitations by study). First, regarding the research tool, the majority of the studies did not use standardised measures of attitude. Apart from undermining confidence in study findings, this makes it difficult to compare results, as each examines different aspects of attitude. Second, sample, and group size varied widely, and samples were not always clearly representative due to potentially biased, or unreported, sampling strategies, which limits generalizability. Third, all data was self-report, introducing the potential for misunderstanding or misinterpretation, or the possibility of a type of social desirability bias meaning participants might be more likely to respond in accordance with guidelines for good practice rather than in accordance with their personal view for example. Fourth, regarding

analysis, response rates were sometimes poor, with no investigation as to the reason why. Studies often used an unbalanced, non-equivalent group design without appropriate compensatory statistical analysis and/or gave no account of how missing data were handled. It is recommended future research refer to Bennett et al. (2010), for guidelines regarding design, procedure, analysis, and reporting. Importantly, standardised measures must be developed and used; this will allow new research to build on the findings of previous research in a way more conducive to the development of theory.

A relatively small number of studies were included in this review. Literature was excluded for pragmatic reasons if it was not published in the English language. A considerable body of literature in non-English language journals was excluded. Furthermore, the subject of this review is not a well-defined research area; hence, it is possible the search strategy used was not exhaustive. However, the broad terms used should have identified literature sufficient to give an overview of one approach to investigating the attitudes of psychiatrists and psychologists. The studies included were heterogeneous in terms of the diversity of countries in which they were conducted, and attitudes investigated. This made interpretation of results challenging. Limitations mean conclusions must be broad and tentative.

3.3. Conclusions

The present review suggests the attitudes of psychologists and psychiatrists towards mental disorder and towards people with a psychiatric diagnosis continue to differ indicating differing implicit model adherence. Some areas of agreement were found. The pattern of findings of more methodologically robust studies can be partially understood in terms of a

medical-psychosocial ideological continuum (e.g. Morrison & Hanson, 1978; Morrison & Nevid, 1976), and with reference to Wyatt and Livson's (1994) six-factor model. However, neither of these explanatory frameworks can fully account for the findings of the present review.

Whilst constructive combination of differing approaches can be an important asset in multidisciplinary working, differing attitudes towards aspects of clinical theory and practice presents a potential for conflict in clinical practice, and confusion in both the patient and the practitioner. The present review therefore highlights the need for this area to be better understood. Further theory driven, well designed research is needed which uses standardised measures, and which investigates; 1) attitudes towards individuals with a psychiatric diagnosis, 2) attitudes regarding aetiology, 3) attitudes regarding diagnosis, 4) attitudes regarding treatment approaches, 5) attitudes regarding prognosis. Measures should allow for the expression of attitudes resulting from a wide range of variables including professional and personal experiences. Explanatory variables besides profession should be considered.

References

Ajzen, I. (1991). The theory of planned behavior. Organizational behavior and human decision processes, 50(2), 179-211.

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. Psychological Bulletin, 84(5), 888-918.

Bennett, C., Khangura, S., Brehaut, J. C., Graham, I. D., Moher, D., Potter, B. K., & Grimshaw, J. M. (2010). Reporting guidelines for survey research: An analysis of published guidance and reporting practices. PLoS Medicine, 8(8), 1-11.

Blaney, P. H. (1975). Implications of the medical model and its alternatives. The American Journal of Psychiatry, 132(9), 911-914.

Caldwell, T. M., & Jorm, A. F. (2001). Mental health nurses' beliefs about likely outcomes for people with schizophrenia or depression: A comparison with the public and other healthcare professionals. The Australian and New Zealand journal of mental health nursing, 10(1), 42-54.

Canter, F. M. (1963). The relationship between authoritarianism, attitudes toward mental hospital patients, and effectiveness in clinical work with mental hospital patients. Journal of Clinical Psychology, 19, 124-127.

Clearing House for Postgraduate Courses in Clinical Psychology. (2011). Clearing House - Basics - Equal opportunities numbers. Retrieved June 6, 2012, from http://www.leeds.ac.uk/chpccp/BasicEqualopps.html

Cohen, J., & Struening, E. L. (1964). Opinions about mental illness: Hospital social atmosphere profiles and their relevance to effectiveness. Journal of Consulting Psychology, 28, 291-298.

Colombo, A., Bendelow, G., Fulford, B., & Williams, S. (2003). Evaluating the influence of implicit models of mental disorder on processes of shared decision making within community-based multi-disciplinary teams. Social Science & Medicine, 56(7), 1557-1570.

Dorahy, M. J., & Lewis, C. A. (2002). Dissociative identity disorder in Northern Ireland: A survey of attitudes and experience among clinical psychologists and psychiatrists. The Journal of Nervous and Mental Disease, 190(10), 707-710.

Ellsworth, R. B. (1965). A behavioural study of staff attitudes toward mental illness. Journal of Abnormal Psychology, 70, 194-200.

Gilchrist, G., Moskalewicz, J., Slezakova, S., Okruhlica, L., Torrens, M., Vajd, R., & Baldacchino, A. (2011). Staff regard towards working with substance users: a European multi-centre study. Addiction, 106(6), 1114-1125.

Health and Care Professions Council. (2012). Standards of Proficiency: Practitioner psychologists. London: Health and Care Professions Council.

Hannigan, B. (1999). Joint working in community mental health: Prospects and challenges. Health & social care in the community, 7(1), 25-31.

Harland, R., Antonova, E., Owen, G. S., Broome, M., Landau, S., Deeley, Q., & Murray, R. (2009). A study of psychiatrists' concepts of mental illness. Psychological Medicine, 967-976.

Haugen, M. L., Tyler, J. D., & Clark, J. A. (1991). Mental health values of psychotherapists: How psychologists, psychiatrists, psychoanalysts, and social workers conceptualize good mental health. Counselling and Values, 36(1), 24-36.

Heinze, G., & Cortes, J. (2005). Treatment preference and attitude toward pharmacotherapy and psychotherapy in Latin America. Salud Mental, 28(1), 10-17.

Heinze, G., Torres, M., & Cortes, J. (1999). Attitudes of health professionals towards prescribing psychodrugs. Salud Mental, 22(6), 1-7.

Henerson, M. E., Morris, L. L., Fitz-Gibbon, C. T., California, U. of, & Evaluation, L. A. C. for the S. of. (1987). How to Measure Attitudes. London: SAGE.

Höglund, P., Levander, S., Anckarsäter, H., & Radovic, S. (2009). Accountability and psychiatric disorders: How do forensic psychiatric professionals think? International journal of law and psychiatry, 32(6), 355-361.

Jacobs, E., Kline, E., & Schiffman, J. (2011). Practitioner perceptions of attenuated psychosis syndrome. Schizophrenia Research, 131(1-3), 24-30.

Jorm, A. F., Korten, A. E., Jacomb, P. A., Christensen, H., & Henderson, S. (1999). Attitudes towards people with a mental disorder: A survey of the Australian public and health professionals. The Australian and New Zealand Journal of Psychiatry, 33(1), 77-83.

Jorm, A. F., Korten, A. E., Jacomb, P. A., Rodgers, B., Polllitt, P., Christensen, H., & Henderson, S. (1997). Helpfulness of interventions for mental disorders: Beliefs of health professionals compared with the general public. The British Journal of Psychiatry, 171(9), 233 - 237.

Kingsbury, S. J. (1987). Cognitive differences between clinical psychologists and psychiatrists. The American psychologist, 42(2), 152-6.

Kleinman, A. (1988). The illness narratives: Suffering, healing, and the human condition. New York: Basic Books.

Laing, R. D. (1967). The politics of experience. London: Penguin Books.

Liu, C.-C., Chang, L.-R., Tseng, H.-H., Lai, M.-C., & Hwu, H.-G. (2010). Differential propensity in recognition of prepsychotic phenomena among psychiatrists, clinical psychologists and school counsellors. Early intervention in psychiatry, 4(4), 275-82.

Lupton, D. (1994). Medicine as culture. London: Sage.

Malone, D., Marriott, S., Simmonds, S., & Tyrer, P. (2010). Community mental health teams (CMHTs) for people with severe mental illnesses and disordered personality (Review). Cochrane Database of Systematic Reviews, 2010(3), 1-35.

Meredith, L. S., Wells, K. B., & Camp, P. (1994). Clinician specialty and treatment style for depressed outpatients with and without medical comorbidities. Archives of Family Medicine, 3, 1065-1072.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. Journal of clinical epidemiology, 62(10), 1006-1012.

Morrison, J. K., & Hanson, G. D. (1978). Clinical psychologists in the vanguard : Current attitudes toward mental illness. Professional Psychology, (May), 240-248.

Morrison, J. K., & Nevid, J. S. (1976). Attitudes of mental patients and mental health professionals about mental illness. Psychological Reports, 38(2), 565-566.

Nolan, C. (1995). Community mental health care ideology and the mental health care professional. Irish journal of psychological medicine, 12(3), 91-94.

Nordt, C., Rössler, W., & Lauber, C. (2006). Attitudes of mental health professionals toward people with schizophrenia and major depression. Schizophrenia bulletin, 32(4), 709-714.

Norman, I. J., & Peck, E. (1999). Working together in adult community mental health services: An inter-professional dialogue. Journal of Mental Health, 8(3), 217-230.

Onyett, S. R., & Ford, R. (1996). Community mental health teams - Where's the wreckage? Journal of Mental Health, 5(1), 47-55.

Ovretveit, J. (2000). Coordinating Community Care. Buckingham: Open University Press.

Pecke, E., & Norman, I. J. (1999). Working together in adult community mental health services: Exploring inter-professional role relations. Journal of Mental Health, 8(3), 231-243.

Perloff, R. M. (2010). The Dynamics of Persuasion: Communication and Attitudes in the 21st Century. London: Taylor & Francis.

Rabkin, J. G. (1972). Opinions about mental illness: A review of the literature. Psychological Bulletin, 77(3), 153-171.

Royal College of Psychiatrists. (2012). The Royal College of Psychiatrists: Training. Retrieved June 25, 2012, from http://www.rcpsych.ac.uk/specialtytraining.aspx

Shah, P., & Mountain, D. (2007). The medical model is dead-long live the medical model. The British journal of psychiatry, 191, 375-377.

Steinert, T., Lepping, P., Baranyai, R., Hoffmann, M., & Leherr, H. (2005). Compulsory admission and treatment in schizophrenia: A study of ethical attitudes in four European countries. Social psychiatry and psychiatric epidemiology, 40(8), 635-641.

Szasz, T. S. (1974). The Myth of Mental Illness. New York: HarperCollins.

Tesser, A. (1993). The importance of heritability in psychological research: The case of attitudes. Psychological review, 100(1), 129-142.

National Institute for Mental Health in England. (2007). New Ways of Working for Everyone: A best practice implementation guide. London.

Wahass, S., & Kent, G. (1997). A cross-cultural study of the attitudes of mental health professionals towards auditory hallucinations. International Journal of Social Psychiatry, 43(3), 184-192.

Werner, S., & Stawski, M. (2012). Mental health: Knowledge, attitudes and training of professionals on dual diagnosis of intellectual disability and psychiatric disorder. Journal of intellectual disability research, 56(3), 291-304.

Wicker, A. (1969). Attitudes versus actions: The relationship of verbal and overt behavioural responses to attitude objects. Journal of Social Issues, 25, 41-78.

Wyatt, R. C. (1989). *Psychiatrists' and psychologists' positions on the psychosocial and* medical model: An empirical approach. Berkeley/Alameda.

Wyatt, R. C., & Livson, N. (1994). The not so great divide? Psychologists and psychiatrists take stands on the medical and psychosocial models of mental illness. Professional Psychology: Research and Practice, 25(2), 120-131.

REBECCA J. READ BA Hons MSc

PROFESSIONALS' ATTITUDES TOWARDS MENTAL DISORDER

Section B:

Psychologists' Attitudes towards Mental Disorder
(including comparisons with psychiatrists)

Word Count: 7992 (355)

For submission to Psychological Medicine

(See Appendix D for instructions for contributors)

MARCH 2012

SALOMONS
CANTERBURY CHRIST CHURCH UNIVERSITY

Abstract

Background. Whilst differing perspectives can be an asset, they have also been found to lead to conflict and misunderstanding in multidisciplinary practice. Evidence suggests that different mental health disciplines hold differing attitudes towards mental disorder, reflecting differing implicit models held. To contribute to our understanding of this problem the present study investigates psychologists' concepts of mental disorder, building on a pilot study conducted by Harland et al. with psychiatrists (2009). Tentative comparisons are made.

Method. The Maudsley Attitude Questionnaire was used in an online survey of trainee clinical psychologists (N = 288). Principal components analysis was used to investigate implicit models. It was hypothesised that psychologists' understandings of mental disorder would differ from psychiatrists.

Results. Psychologists were found to endorse different models for different diagnostic categories of mental disorder. Psychologists favoured the social realist model overall. Principal components reflecting a biological-psychosocial continuum, and scales of cognitive/behavioural and psychodynamic/spiritual model endorsement were revealed.

Conclusion. When compared to the findings of Harland et al. (2009), psychologists appear to make more use of psychosocial and less use of biological factors in their understanding of mental disorder than do psychiatrists. There appears to be fundamental differences in psychologists and psychiatrists' implicit models of mental disorder. A greater emphasis on multidisciplinary training initiatives is recommended.

1. Introduction

Now, more than ever, mental health professionals from different disciplines must be able to work together effectively. Mental health service provision has evolved; the multi-disciplinary team approach has become well established as the preferred mode of service delivery (Malone et al., 2010). Current policy imperatives such as New Ways of Working, state clinical psychologists (hereon referred to as psychologists) should take leadership roles and responsibilities previously predominantly held by psychiatrists (National Institute for Mental Health in England, 2007). As such, both psychologists and psychiatrists are influential members of a multidisciplinary team. Research to date suggests the attitudes of psychologists and psychiatrists towards mental disorder differ, and these differences can be understood in terms of differing implicit models of mental disorder (Read, 2012 [Section A]). It has been suggested these differing implicit models, in connection with power dynamics, can lead to "working structures and practices that generate conflict and misunderstanding, and restrict choice for both practitioners and patients" (Colombo, Bendelow, Fulford, & Williams, 2003, p. 1568).

The influence of the models of mental disorder implicit in professionals' attitudes is not limited to multi-disciplinary working; the understandings we hold inform all aspects of theory and practice (Kleinman, 1988). For example, models are literally invested in when funding decisions are made influencing the direction and focus of research, e.g. biological treatments vs. psychosocial interventions. The influential nature of the implicit models of mental disorder held by professionals makes them an important subject of study. The present study aims to contribute to our understanding of the problem of multiple implicit models of mental disorder and corresponding attitudes by investigating psychologists' concepts of

mental disorder. The findings of the present study can thus facilitate efforts to find ways of working constructively with difference.

The range of models of mental disorder available to psychologists and psychiatrists is broad. Current training provides multiple conceptual frameworks, models, or epistemologies, around which attitudes concerning mental disorder and towards people with a psychiatric diagnosis can be formed. These commonly include the medical, biopsychosocial, cognitive, behavioural, and psychodynamic models (Beck, 1991; Blaney, 1975; Engel, 1977; Leichsenring & Leibing, 2007; Shah & Mountain, 2007; Wolpe, 1973), although many more may be encountered in the process of training and in future careers (Clearing House for Postgraduate Courses in Clinical Psychology, 2011; Health and Care Professions Council, 2012; Royal College of Psychiatrists, 2012). Evidence-based practice guidelines can further inform professionals' understandings (e.g. NICE, 2012). It is reasonable to expect professionals' attitudes to reflect their training experience and clinical guidelines. However, attitudes can be formed and influenced by many different factors besides direct experience of an attitude object (Perloff, 2010). Other influential explanatory models are also commonly available in society. For example, previous research suggests a professional's religious/spiritual orientation may be significant in influencing attitudes to mental disorder (Shafranske & Malony, 1990).

Early research examining the attitudes of mental health professionals towards mental disorder lacked a strong theoretical basis and findings were mixed (Rabkin, 1972). Morrison and colleagues however, consistently suggested the attitudes of psychologists and psychiatrists could be understood in terms of a medical-psychosocial ideological continuum (e.g. Morrison & Hanson, 1978; Morrison & Nevid, 1976). The medical end of the continuum was conceptualised in terms of the description of the medical model provided by Blaney (1975), which conceptualises mental disorder as organic illness, i.e. a) mental

disorders are organic diseases, b) symptoms are manifestations of underlying organic dysfunction, c) a mentally ill person cannot be held responsible for his/her actions, and d) diagnosis provides the best way to understand psychiatric symptoms. The psychosocial end of the spectrum was typified by an emphasis on immediate social circumstances and the wider social context (systemic issues), as well as sympathy to perspectives such as those famously described in Szasz's The Myth of Mental Illness (1974) which reject the conceptualisation of mental disorder as organic illness. Psychologists tended towards the psychosocial end of the spectrum and psychiatrists tended towards the medical end.

The medical-psychosocial ideological continuum theory is somewhat supported by research suggesting the various mental healthcare professions have fundamentally different ways of conceptualising mental disorder. For example, research has suggested different disciplines place different emphasis on discrete elements of the biopsychosocial model (e.g. Hannigan, 1999). Norman and Peck suggest the various mental healthcare professions lack a uniting philosophy and are often divided according to their discipline's culture (1999). Recent research specifically examining the attitudes of psychologists and psychiatrists (without necessarily looking for implicitly held models of mental disorder) consistently demonstrates difference in attitudes between professions although some areas of agreement are also found (Read, 2012 [Section A]). Some support for the medical-psychosocial ideological continuum is found in such research. For example, research has suggested psychiatrists have more faith in psychopharmacology than psychologists (Heinze & Cortes, 2005; Heinze et al., 1999; Meredith et al., 1994; Wahass & Kent, 1997). This suggests psychiatrists may be more sympathetic to the idea of an organic basis to mental disorder that can be treated with a biological intervention. This is consistent with the medical model as conceptualised by Blaney (1975).

Recent attitude research also presents some challenges for the medical-psychosocial ideological continuum theory as it struggles to explain the complexities of the findings. For example, research has suggested psychologists and psychiatrists have similar attitudes regarding the accountability of persons with a psychiatric diagnosis, the restriction of rights, and social distancing (Höglund et al., 2009; Nordt et al., 2006). Wyatt and Livson suggest the medical-psychosocial ideological continuum theory is overly simplistic and present a six-factor model alternative (1994). This model accounts for findings suggesting psychiatrists and psychologists endorse attitudes suggestive of similar cultural, social, and egalitarian values. However, some research appears to contradict such findings. For example, research has suggested psychiatrists hold more negative stereotypes of people with a psychiatric diagnosis than psychologists do, and that psychologists perceive high levels of untrustworthiness to be more indicative of mental disorder than psychiatrists do (Haugen et al., 1991; Nordt et al., 2006). Thus, no satisfactory explanatory model has been found thus far.

To date, there has been little research directly investigating the implicit models of mental disorder held by psychologists and psychiatrists. The conclusions, which can be drawn, based on attitude research not specifically investigating implicit models are limited due to a number of methodological issues (Read, 2012 [Section A]). Importantly, there is a lack of consistency in measures used; they are generally developed for the purposes of each individual study. Furthermore, the measures used are generally not designed to capture attitudes consistent with a broad range of possible models. There is also inconsistency in the explanatory variables besides profession investigated. Previous research suggests diagnostic category, severity of condition, years of professional experience, country/culture, theoretical orientation, religion, age and sex of professional, and service setting, may be associated with

differing attitudes between psychologists and psychiatrists (Read, 2012 [Section A]; Shafranske & Malony, 1990).

The present study builds on the work of Harland et al. who developed the Maudsley Attitude Questionaire (MAQ) for use in their pilot study of psychiatrists' concepts of mental illness (2009). The MAQ was designed to capture attitudes consistent with biological, cognitive, behavioural, psychodynamic, social realist, social constructivist, nihilist, and spiritualist models. Harland et al. found the extent to which attitudes reflected endorsement of models varied with diagnostic category, and overall the biological model was most strongly endorsed. They also found three underlying attitude dimensions (a biological/non-biological contrast, an eclectic view, and a psychodynamic/sociological contrast), arround which the psychiatrists (mainly trainees) surveyed appeard to organise thier attitudes. Findings were limited due to the relatively small convenience sample. The present study uses a version of the MAQ adapted for psychologists, thus capturing attitudes consistent with a broad range of models. The use of the MAQ also allows tentative comparisons to be made with the Harland et al. findings for psychiatrists, thus facilitating an understanding of the differences between the two professions. The MAQ captures various demographic and professional background characteristics, and surveys attitudes regarding four different diagnostic categories, thus potential explanatory variables besides profession were investigated.

Based on the previous literature, it was hypothesised findings of the present study with psychologists would differ from the Harland et al. findings for psychiatrists. Specifically, it was expected that; 1) the extent to which attitudes reflected endorsement of models would vary with diagnostic category, but in a different pattern to psychiatrists, and overall the psychosocial models (social realist and constructionist) would be most strongly endorsed, 2) underlying attitude dimensions would be found in the patterns of model

endorsement, and 3) relationships would be found between demographic and professional characteristics of psychologists and their endorsement of the underlying attitude dimensions.

2. Method

2.1. Research Tool

An adapted version of the Maudsley Attitude Questionnaire (MAQ; Appendix E) was used. The MAQ questionnaire consists of two parts. Part 1 comprises questions about the respondents' demographic and professional characteristics. The MAQ was adapted for the present study through minor adjustments to part 1 to ensure relevance to trainee clinical psychologists. For example, 'Number of years in psychiatry' became 'Number of years in psychology'. No adjustments to part 2 were made.

Part 2 of the MAQ (the main body of the questionnaire) comprises a matrix of five-point Likert scales (ranging from 1 indicating 'strongly disagree', to 5 indicating 'strongly agree') with statements/items designed to elicit attitudes towards four DSM-IV diagnostic categories: schizophrenia, major depressive disorder (MDD), generalised anxiety disorder (GAD), and antisocial personality disorder (APD). The statements in part 2 of the MAQ reflect eight conceptual paradigms (models) and concern four dimensions of attitude. The models are biological, cognitive, behavioural, psychodynamic, social realist, social constructivist, nihilist, and spiritualist. The dimensions of attitude are aetiology, classification, research, and treatment. For each model there is a statement regarding each

dimension of attitude (models [8] x dimension of attitude [4]), hence there are 32 statements in total. These are randomly arranged. Respondents are asked to indicate the extent to which they agree/disagree with each statement with respect to each diagnostic category (statement [32] x diagnostic category [4]). Thus, part 2 of the MAQ consists of 128 attitude items/variables in total.

By way of psychometric properties of the MAQ, Harland et al. (2009) report on a validation study with psychiatrists which they conducted as part of their MAQ development process. They found a 95% confidence interval for mean construct validity between 92.3% and 98.1% and thus concluded the MAQ had acceptable construct validity.

2.2. Procedure

After ethical approval for the current study was granted by the Salomons ethics panel (Appendix F), directors of every clinical psychology training programme offering a doctoral level qualification approved by the Health Professions Council and accredited by the British Psychological Society in the UK (twenty-nine in total) were contacted, and invited to allow their trainees to participate in the study. The invitation to programme directors consisted of an email with study information (Appendix E) and ethical approval (Appendix F) attached. One reminder was sent to course directors. Trainees from all three years at programmes where directors had opted-in to the present study were contacted via an email containing a link to the online consent form/information sheet and adapted MAQ (Appendix E) circulated by program administrators. A reminder email containing the same link was circulated to trainees via program administrators after eight weeks. Trainees were offered the opportunity to enter a prize draw to win gift vouchers (one each worth £70, £20, and £10). The aim was

to recruit a sample of at least 200 participants, sufficient for factor analysis (Tabachnick & Fidell, 2001).

2.3. Analysis

Descriptive statistics provided some indication of respondents' attitudes. All further analysis was conducted using aggregate attitude scores reflecting the respondents' endorsement of each model with respect to each disorder. These aggregate scores were produced by summing the four items representing each dimension of attitude (aetiology, classification, treatment, and research) for each model by disorder. This effectively reduced the number of attitude variables to 32. As per Harland et al. (2009), the aggregation of scores was based on the premise that each dimension of attitude probed the same construct (overall attitude) within each model (biological, cognitive, behavioural, psychodynamic, social realist, social constructivist, nihilist, and spiritualist) for each diagnostic category (schizophrenia, MDD, GAD, APD). This assumption was tested using reliability analysis. Cronbach's alphas for the 32 aggregated score subscales were not very high overall (range: 0.55 – 0.83, Table 1) but were considered sufficient in view of the nature of the constructs being measured and because they were calculated from 4-item scales (Kline, 2000).

Table 1

Cronbach's alphas for the 32 aggregated score subscales

Model	Schizophrenia	Major depressive disorder	Generalised anxiety disorder	Antisocial personality disorder
Social realist	0.65	0.62	0.63	0.63
Social constructionist	0.64	0.69	0.7	0.7
Cognitive	0.55	0.55	0.56	0.55
Psychodynamic	0.72	0.76	0.73	0.72
Behavioural	0.58	0.64	0.61	0.62
Biological	0.83	0.77	0.76	0.75
Nihilist	0.63	0.59	0.56	0.57
Spiritualist	0.78	0.78	0.79	0.75

Analysis of variance (ANOVA) was used to examine differences in model endorsement by diagnostic category. Principal components analysis (PCA) was used to determine underlying attitude dimensions that could explain the organisation of respondents' attitudes towards the diagnostic categories (implicit models). Correlational analysis was used to examine the relationship between these underlying dimensions and demographic and professional characteristics of the respondents (age, years in education, religion, sex, and years of professional experience) captured by the MAQ that previous research suggests as possible explanatory variables (Read, 2012 [Section A]; Shafranske & Malony, 1990). Post hoc tests were conducted where appropriate. Significant results with small effect sizes ($d < .5$, $\eta p^2 < .06$) were not emphasised in the interpretation of results in consideration of the large sample size (Cohen, 1988).

The Harland et al. (2009) analyses (i.e. use of descriptive statistics, ANOVA, PCA, and correlational analysis, as described above) were used as a guide to analysis for the present study to allow comparisons between their findings for psychiatrists and findings of the present study where possible. However, exact replication of statistical analyses (allowing direct comparison of findings) was considered inappropriate because the present study used a

larger data set (N = 288) than did Harland et al. (2009; N = 76). Specifically, Harland et al. (2009) relied heavily on descriptive statistics to examine differences in model endorsement by diagnostic category, employing a single ANOVA as a formal test for a model by disorder interaction. The present study needed to rely less on descriptive statistics due to the large sample size, instead a series of ANOVAs were performed to explore differences in model endorsement by diagnostic category. Qualitative comparisons between the present study's findings for trainee clinical psychologists and the Harland et al. (2009) findings for psychiatrists are provided in the discussion section.

3. Results

3.1. Characteristics of respondents

The trainee intake years surveyed for the current study were 2009, 2010, and 2011. In 2009, 616 applicants were accepted onto training programs and 620 in 2010. Figures for 2011 were not available (Clearing House for Postgraduate Courses in Clinical Psychology, 2011). From these figures, it was estimated a total population sampled consisted of approximately 1854 trainees. Twenty-four directors agreed to allow their trainees to participate in the study. Two directors declined participation and no response was received from three. Of all trainees at opted-in programmes, 405 trainee clinical psychologists consented to participate in the study via the online form (approximately 22% of the total trainee population). The survey was not finished by 116 (28.6%) of these (interpreted as withdrawal). The remaining sample of 289 (71%) respondents is described in Table 2.

The sample consisted of approximately even numbers of respondents from each of the three years of clinical psychology training. Based on Clearing House for Postgraduate Courses in Clinical Psychology figures for 2009 and 2010 (2011), population averages were estimated as: age 27 years, female 86%, no religion (including atheist and agnostic) 65%, and Christian 28%. Therefore, the sample was considered approximately representative of the population in terms of age, sex, and religion (Table 2). Population averages for other characteristics measured were not available. Of the 289 completers, one respondent did not provide a complete data set and was therefore was excluded from the analysis. Hence, the data from 288 trainees (71% of total respondents) were included in all further analysis.

3.2. Model Endorsement

No statements from part 2 of the MAQ were unanimously disagreed with (Likert scores <3) or agreed with (Likert scores >3). Question 2 contained the four most agreed-with statements: 'The disorder [GAD, MDD, APD, and schizophrenia] arises as a consequence of social circumstance or conditions' (social realist model, concerning aetiology). This statement was agreed with by 253 (88%) of the respondents with respect to GAD, 252 (88%) with in respect to MDD, 238 (83%) with respect to APD, and 197 (68%) with respect to schizophrenia.

Table 2

Summary of demographic and professional background characteristics of respondents

Demographic / professional background variable	No. of respondents (%)		Median (range)	
Age in years	289		28	(22-53)
Sex	289			
Female	256	(89)		
Male	33	(11)		
Years in education (including primary school)	289		19	(9-31)
Number of years in psychology (including undergraduate degree)	289		7	(3-16)
Current year of training	289			
1st year	87	(30)		
2nd year	100	(35)		
3rd year	102	(35)		
Timing of decision to become a clinical psychology trainee	288			
Before undergraduate degree	56	(19)		
During undergraduate degree	103	(36)		
After undergraduate degree	129	(45)		
Experience of personal analysis and/or therapy	289			
Individual	116	(40)		
Group	50	(17)		
Currently engaged in research	289			
Yes	225	(78)		
No	64	(22)		
Area of research currently engaged in	289			
Psychotherapy	70	(24)		
Health service	64	(22)		
Cognition	40	(14)		
Neuropsychology	27	(9)		
Epidemiology	8	(3)		
Forensics	5	(2)		
Genetics	3	(1)		
Neurophysiology	2	(1)		
Neuroimaging	1	(0)		
Other	64	(2)		
Number of publications	289		0	(0-15)
Experimental papers			0	(0-14)
Case studies			0	(0-3)
Reviews			0	(0-8)
Other			0	(0-5)
Religious belief	289			
Christian	77	(27)		
Atheist	58	(20)		
Agnostic	36	(13)		
Buddhist	9	(3)		
Jewish	5	(2)		
Muslim	1	(0)		
Other	6	(2)		
Unsure	1	(0)		
None	96	(33)		
Political party	289			
Labour	73	(25)		
Liberal Democrat	41	(14)		
Conservative	26	(9)		
Green	13	(5)		
Other or multiple	24	(8)		
None	112	(39)		

The first, third, and forth, most disagreed-with statements came from question 6: 'The ideal classification of the disorder [GAD, MDD, and APD] would be a pathophysiological one (medical model)' (biological model, concerning classification). This statement was disagreed with by 260 (90%) of the respondents with respect to GAD, 256 [89%] of the respondents disagreed with respect to MDD, and 253 (88%) disagreed with respect to APD. The second most disagreed-with statement was 'The disorder [schizophrenia] is nothing more than the sum of maladaptive thoughts, beliefs and behaviours' (cognitive model, aetiology, 258 [90%] of the respondents).

For all other analyses, aggregate attitude scores (range 4 – 20) were used reflecting the respondents' endorsement of each model with respect to each disorder as described in the method section. Table 3 provides means and standard deviations of the aggregate attitude scores by model and disorder. To clearly illustrate the endorsement of each model for each disorder, Figure 1 shows the mean aggregate attitude scores divided by four (the number of items contributing to the aggregated score for each model) to reflect the Likert rating scale used in part 2 of the MAQ. The value of three on the y-axis of the graph shown in Figure 1 corresponds to a rating of three, neutral attitude.

Table 3

Descriptive statistics for the aggregate attitude scores by model and disorder

Model	Schizophrenia	Major depressive disorder	Generalised anxiety disorder	Antisocial personality disorder
Social realist	13.21 (2.68) [5-20]	13.79 (2.51) [6-20]	13.43 (2.55) [5-20]	13.88 (2.67) [6-20]
Social constructionist	12.93 (3.03) [4-20]	12.78 (2.88) [5-20]	12.65 (2.93) [5-20]	12.96 (3.01) [4-20]
Cognitive	11.02 (2.50) [4-17]	12.55 (2.47) [4-20]	12.82 (2.52) [4-20]	10.94 (2.46) [4-17]
Psychodynamic	11.05 (2.87) [4-19]	11.52 (2.75) [4-20]	11.39 (2.81) [4-17]	11.78 (3.00) [4-19]
Behavioural	10.47 (2.50) [4-18]	11.36 (2.65) [4-18]	11.06 (2.66) [4-18]	11.88 (2.69) [4-18]
Biological	10.07 (3.51) [4-19]	8.70 (2.88) [4-17]	8.05 (2.70) [4-17]	8.18 (2.90) [4-17]
Nihilist	8.05 (2.75) [4-17]	8.07 (2.48) [4-17]	8.03 (2.40) [4-17]	8.29 (2.61) [4-17]
Spiritualist	7.52 (2.84) [4-16]	7.64 (2.82) [4-16]	7.46 (2.78) [4-16]	7.60 (2.72) [4-16]

Values are given as mean (standard deviation) [range]. Possible range 4 to 20.

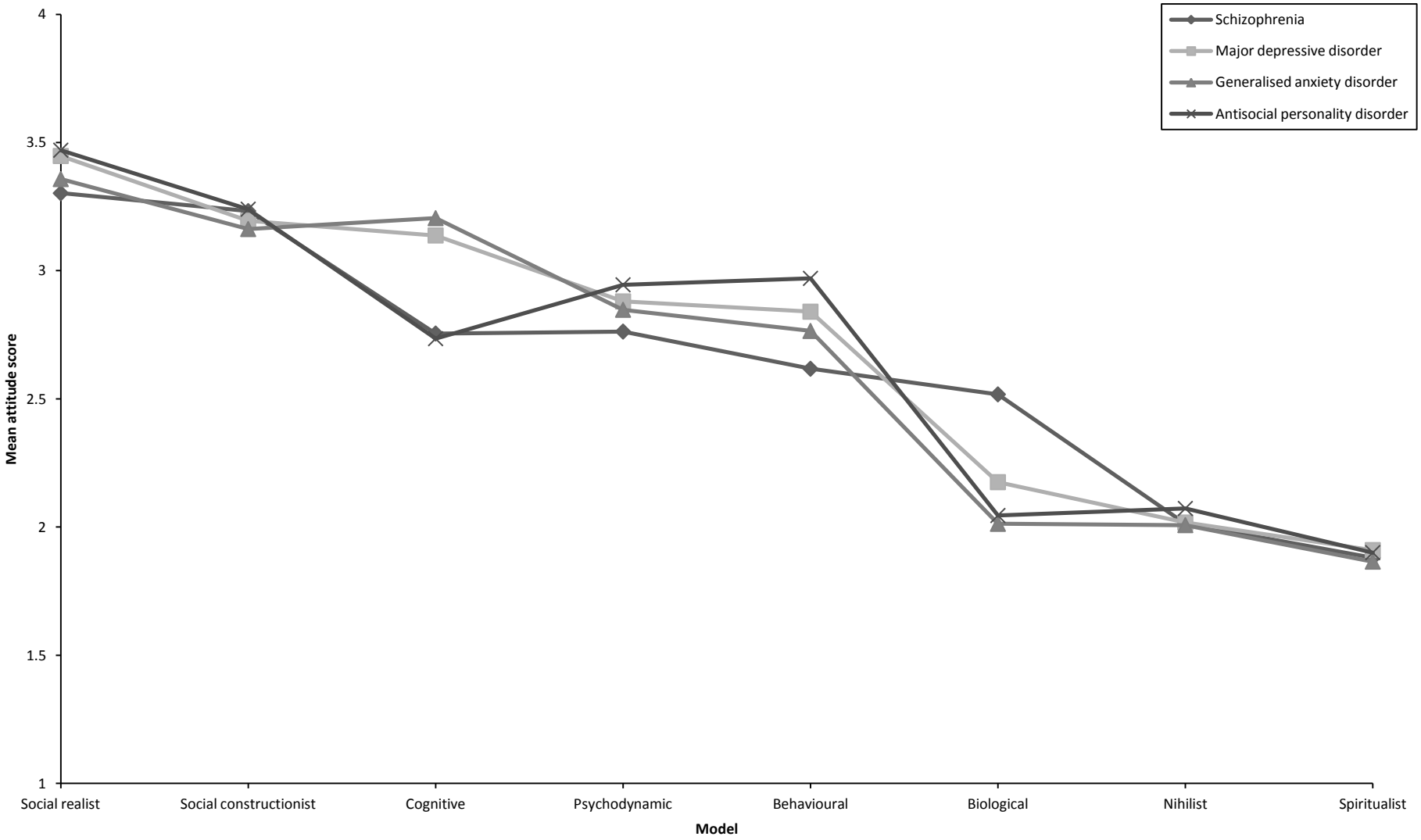


Figure 1. Mean aggregate attitude scores (range 1 – 51 = strongly disagree, 3 = neutral, 5 = strongly agree)

Figure 1 indicates attitude items tended to be more strongly disagreed with than agreed with. When disregarding the direction of the expressed attitude (i.e. agree or disagree) the diagnostic categories elicited a similar strength of feeling. That is, where zero represents a neutral attitude and a value of three represents strongest endorsement, for GAD M = 0.44, SD = 0.38, for APD M = 0.42, SD = 0.38, for schizophrenia M = 0.41, SD = 0.27, and MDD M = 0.41, SD = 0.35. No diagnostic category elicited strong feeling.

A two-way repeated-measures ANOVA was performed to examine differences in model endorsement by diagnostic category. Mauchly's test indicated the assumption of sphericity had been violated for the main effects of model endorsement, $\chi^2(27) = 379.56$, $p < .001$, and diagnostic category, $\chi^2(5) = 126.21$, $p < .001$, and for the interaction effect between these two variables, $\chi^2(230) = 2811.95$, $p < .001$. Therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\varepsilon = .65$ for the main effect of model, $\varepsilon = .81$ for the main effect of diagnostic category, and $\varepsilon = .05$ for the interaction effect between model and diagnostic category). All effects were found to be significant at $p < .001$. There were significant main effects of model, $F(4.55, 1306.72) = 243.82$, $\eta p^2 = .46$, and of diagnostic category on level of endorsement, $F(2.43, 696.00) = 25.41$, $\eta p^2 = .08$, and a significant interaction effect between model and diagnostic category, $F(10.04, 2880.62) = 77.54$, $\eta p^2 = .21$. The main effect of model and the interaction effect were considered large, whilst the main effect of diagnostic category was of medium size.

Mean model endorsement ratings for the main effect of model on level of endorsement (irrespective of diagnostic category) showed the hierarchy of model endorsement (from most endorsed to least endorsed) was as follows; 1) social realist, 2) social constructionist, 3) cognitive, 4) psychodynamic, 5) behavioural, 6) biological, 7) nihilist, 8) spiritualist. Post hoc tests using the Bonferroni correction, revealed statistically significant differences in mean model endorsement between all models at $p < .001$, except for

the following: a) no significant difference in model endorsement was found between the nihilist and biological models, the behavioural and psychodynamic models, or the psychodynamic and cognitive models, and b) the difference in model endorsement between the spiritualist and nihilist models was significant at $p < .05$.

However, effect size calculations revealed that, whilst the majority of differences between mean model endorsement were medium to large, the mean differences between each model adjacent in the hierarchy of model endorsement, were all small (range: $d = .09$ to $d = .39$) except for the mean difference between biological and behavioural model endorsement where the effect size was large ($d = .94$). Notably no significant difference of a medium to large effect size was found between a) the cognitive, psychodynamic, or behavioural, models, or b) the biological, nihilist, or spiritualist, models. Significance (p values) and effect sizes (Cohen's d) for post hoc pairwise comparisons for the main effect of model are provided in Table 4.

To explore the interaction effect between model and diagnostic category, one-way repeated-measures ANOVAs were performed for each model with a Greenhouse-Geisser correction, followed by post hoc tests using the Bonferroni correction where appropriate. Significance (p values) and effect sizes (Cohen's d) for post hoc pairwise comparisons for the interaction effect of model by diagnostic category are provided in Table 5.

Table 4

Significance and effect sizes for post hoc pairwise comparisons for the main effect of model

	Social realist	Social constructionist	Cognitive	Psychodynamic	Behavioural	Biological	Nihilist
Social constructionist	< .001 (0.29)	-	-	-	-	-	-
Cognitive	**< .001 (0.76)**	< .001 (0.39)	-	-	-	-	-
Psychodynamic	**< .001 (0.84)**	**< .001 (0.50)**	ns (0.16)	-	-	-	-
Behavioural	**< .001 (0.99)**	**< .001 (0.62)**	< .001 (0.28)	ns (0.09)	-	-	-
Biological	**< .001 (1.88)**	**< .001 (1.46)**	**< .001 (1.24)**	**< .001 (0.98)**	**< .001 (0.94)**	-	-
Nihilist	**< .001 (2.25)**	**< .001 (1.77)**	**< .001 (1.59)**	**< .001 (1.27)**	**< .001 (1.26)**	ns (0.24)	-
Spiritualist	**< .001 (2.35)**	**< .001 (1.89)**	**< .001 (1.72)**	**< .001 (1.42)**	**< .001 (1.41)**	< .001 (0.44)	.05 (0.22)

Values are given as p (d). ns = not significant. Values both significant and of a medium to large effect size (d > .5) are given in bold. A positive effect size indicates the mean endorsement rating was higher for the model indicated in the top row of the table than for the model indicated in the corresponding column.

Table 5

Significance and effect sizes for post hoc pairwise comparisons for the interaction effect of model by diagnostic category

Comparison		Schizophrenia	MDD	GAD
Social realist	MDD	< .001 (-0.22)	-	-
	GAD	ns (-0.08)	< .001 (0.14)	-
	APD	< .001 (-0.25)	ns (-0.03)	< .01 (-0.17)
Social constructionist	MDD	ns (0.05)	-	-
	GAD	< .01 (0.09)	.03 (0.04)	-
	APD	ns (-0.01)	ns (-0.06)	.01 (-0.10)
Cognitive	MDD	**< .001 (-0.62)**	-	-
	GAD	**< .001 (-0.72)**	< .001 (-0.11)	-
	APD	ns (0.03)	**< .001 (0.65)**	**< .001 (0.76)**
Psychodynamic	MDD	< .001 (-0.17)	-	-
	GAD	< .01 (-0.12)	ns (0.04)	-
	APD	< .001 (-0.25)	.02 (-0.09)	< .001 (-0.13)
Behavioural	MDD	< .001 (-0.35)	-	-
	GAD	< .001 (-0.23)	.03 (0.11)	-
	APD	**< .001 (-0.55)**	< .001 (-0.19)	< .001 (0.31)
Biological	MDD	< .001 (0.43)	-	-
	GAD	**< .001 (0.64)**	< .001 (0.23)	-
	APD	**< .001 (0.59)**	< .001 (0.18)	ns (-0.04)
Nihilist	MDD	ns (-0.01)	-	-
	GAD	ns (0.01)	ns (0.01)	-
	APD	< .01 (-0.09)	< .01 (-0.09)	< .01 (-0.10)
Spiritualist	MDD	ns (-0.04)	-	-
	GAD	ns (0.02)	< .001 (0.07)	-
	APD	ns (-0.03)	ns (0.02)	ns (-0.05)

Values are given as p (d). ns = not significant. Values both significant and of a medium to large effect size (d > .5) are given in bold. A positive effect size indicates the mean endorsement rating was higher for the diagnostic category indicated in the top row of the table than for the diagnostic category indicated in the corresponding column.

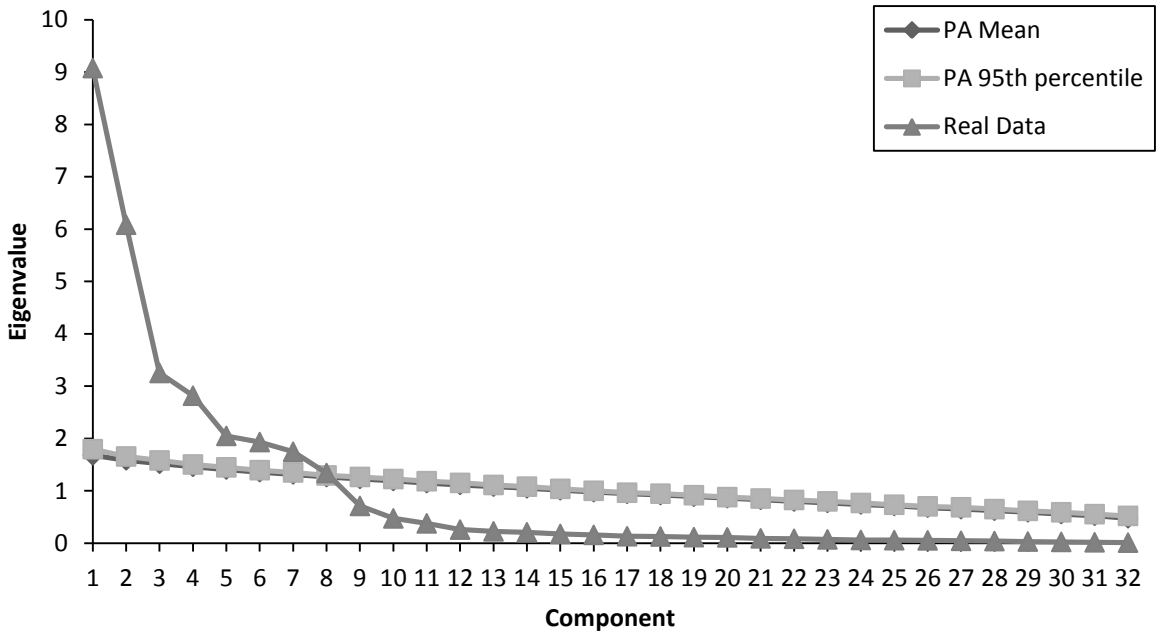
Model endorsement was found to vary significantly with diagnostic category for all eight of the models used in the construction of the MAQ, however effect sizes were large ($\eta p^2 > .14$) for the cognitive, behavioural, and biological models only: social realist, $F(2.42, 678.10) = 19.07$, $p < .001$, $\eta p^2 = .06$; social constructionist, $F(2.28, 657.36) = 6.20$, $p = .001$,

ηp^2 = .02; cognitive, F(2.04, 586.52) = 162.09, p < .001, ηp^2 = .36; psychodynamic, F(2.44, 702.49) = 25.80, p < .001, ηp^2 = .08; behavioural, F(2.36, 678.73) = 70.50, p < .001, ηp^2 = .20; biological, F(2.43, 698.26) = 117.26, p < .001, ηp^2 = .29; nihilist, F(2.36, 678.24) = 6.56, p = .001, ηp^2 = .02; spiritual, F(2.57, 740.42) = 17.80, p = .01, ηp^2 = .01.

Post hoc tests revealed medium to large effect sizes for differences in mean model endorsement for the cognitive, behavioural, and biological models only (Table 5). Mean cognitive model endorsement for both schizophrenia and APD was significantly lower (p < .001), than for MDD (schizophrenia d = .62, APD d = .65) and GAD (schizophrenia d = .72, APD d = .76). Mean behavioural model endorsement for schizophrenia was significantly lower than for APD (p < .001, d = .55). Mean biological model endorsement for schizophrenia was significantly higher (p < .001) than for both GAD (d = .64) and APD (d = .59).

3.3. Principal Components Underlying Psychologist's Attitudes

PCA with oblique rotation was performed on the aggregated attitude scores to identify the underlying dimensions or scales that could explain the organisation of the respondents' attitudes towards the diagnostic categories. An examination of the Kaiser-Meyer Olkin measure of sampling adequacy, KMO = .81, and Bartlett's test of sphericity, $\chi^2(496)$ = 13150.25, p < .001, suggested the sample was suitable for factor-analytic procedures. Parallel analysis suggested eight components should be extracted (Longman, Cota, Holden, & Fekken, 1989; see Figure 2).



PA = Parallel Analysis

Figure 2. Plot of Actual Versus Randomly Generated Eigenvalues

Examination of the pattern and structure matrices (Appendix G) for these eight components suggested they were consistent with the eight models reflected in the MAQ attitude statements (biological, behavioural, social constructionist, social realist, psychodynamic, cognitive, nihilist, and spiritualist). The scree test (examination of the graph of eigenvalues, Figure 2), suggested it may be appropriate to extract fewer components as there were several points of inflection. Notably, the first three components accounted for 57.54% of the total variance in the aggregated attitude scores. Further examination determined a three-component solution had the simplest structure in terms of cross-loadings and salience of loadings (Table 6).

Table 6

Obliquely rotated (direct oblimin) factor loadings and communalities for the 3-component solution*

Aggregated attitude item (Model, diagnostic category)	Pattern Matrix			Structure Matrix			h^2
	Non-biol socio-nihilist	Cognitive-behavioural	Psychod-spiritual	Non-biol socio-nihilist	Cognitive-behavioural	Psychod-spiritual	
Biological, APD	**-.708**	.059	.345	**-0.70**	0.32	0.08	.546
Biological, GAD	**-.713**	.111	.306	**-0.67**	0.25	0.16	.561
Biological, MDD	**-.709**	.105	.282	**-0.67**	0.26	0.19	.545
Biological, schizophrenia	**-.706**	.190	.181	**-0.65**	0.21	0.22	.565
Cognitive, APD	.114	**.755**	-.086	-0.21	**0.78**	-0.11	.540
Cognitive, GAD	-.048	**.767**	-.241	-0.20	**0.73**	-0.12	.598
Cognitive, MDD	-.050	**.815**	-.244	0.00	**0.72**	0.07	.672
Cognitive, schizophrenia	.133	**.756**	-.179	0.00	**0.71**	-0.02	.537
Behavioural, APD	-.287	**.612**	.284	-0.31	**0.70**	0.34	.614
Behavioural, GAD	-.211	**.656**	.246	-0.30	**0.71**	0.38	.609
Behavioural, MDD	-.283	**.617**	.323	-0.25	**0.73**	0.32	.645
Behavioural, schizophrenia	-.201	**.604**	.306	-0.22	**0.68**	0.37	.572
Psychodynamic, APD	.030	.274	**.540**	0.09	0.32	**0.62**	.425
Psychodynamic, GAD	.008	.223	**.579**	0.10	0.33	**0.63**	.433
Psychodynamic, MDD	.013	.225	**.591**	0.10	0.37	**0.59**	.449
Psychodynamic, schizophrenia	.068	.211	**.597**	0.16	0.31	**0.65**	.462
Spiritual, APD	.147	-.283	**.804**	0.33	-0.18	**0.78**	.725
Spiritual, GAD	.149	-.318	**.817**	0.34	-0.16	**0.78**	.760
Spiritual, MDD	.131	-.303	**.808**	0.35	-0.19	**0.79**	.727
Spiritual, schizophrenia	.165	-.289	**.807**	0.36	-0.17	**0.79**	.744
Nihilist, APD	**.665**	-.152	.136	**0.69**	-0.19	0.26	.539
Nihilist, GAD	**.652**	-.143	.165	**0.70**	-0.20	0.27	.532
Nihilist, MDD	**.645**	-.135	.153	**0.71**	-0.22	0.24	.513
Nihilist, schizophrenia	**.692**	-.118	.128	**0.73**	-0.19	0.24	.561
Social constructionist, APD	**.751**	.061	.100	**0.74**	-0.03	0.31	.597
Social constructionist, GAD	**.715**	.039	.166	**0.76**	-0.03	0.31	.581
Social constructionist, MDD	**.736**	.039	.156	**0.76**	-0.02	0.26	.608
Social constructionist, schizophrenia	**.780**	.042	.126	**0.80**	-0.04	0.29	.658
Social realist, APD	**.570**	.393	.178	**0.55**	0.31	0.43	.515
Social realist, GAD	**.553**	.319	.274	**0.55**	0.35	0.36	.527
Social realist, MDD	**.543**	.338	.263	**0.56**	0.29	0.44	.517
Social realist, schizophrenia	**.603**	.317	.213	**0.60**	0.27	0.39	.533

*Loading > .54 or < .54 in bold.

For the three components model, there were found to be no cross-loading where salient loadings were considered to be those greater than .39. The components were interpreted and named based on the aggregate attitude items with loadings considered salient (>.39). These items all had a loading greater than .54. The eight models informing the MAQ statements did not cross-load, i.e. the four aggregate attitude items reflecting each model for each disorder were found to have salient loadings within the same component. Hence, the components are described here in terms of these models. Component 1 was named "non-biol socio-nihilist" (eigenvalue of 8.38 after rotation) as the biological model loaded negatively whereas the social constructionist, social realist, and nihilist, models loaded positively onto this component. Component 2 was named "cognitive-behavioural" (eigenvalue of 5.54 after rotation) as the cognitive and behavioural models loaded highly onto this component. Component 3 was named "psychod-spiritual" (eigenvalue of 5.92 after rotation) as the psychodynamic and spiritual models loaded highly onto this component.

The oblimin rotation was used because there are strong theoretical grounds suggesting naturalistic data such as these correlates sufficiently to make oblique rotation appropriate (Field, 2006). The three components were significantly, but not strongly correlated with one another; the non-biol socio-nihilist component correlated negatively with the cognitive-behavioural component, $r(286) = -.13$, $p = .02$. The non-biol socio-nihilist component correlated positively with the psychod-spiritual component, $r(286) = .2$, $p = .001$. The cognitive behavioural component correlated positively with the psychod-spiritual component, $r(286) = .18$, $p = .003$.

3.4. Relationship Between Principal Components and Respondents' Characteristics

Correlational analysis was used to look for associations between demographic and professional background variables (age, years in education, religion, sex, and years of professional experience) and the principal components/underlying dimensions identified from the aggregated attitude scores (non-biol socio-nihilist, cognitive-behavioural, and psychod-spiritual). The Anderson-Rubin method was used to generate component scores for each respondent. The only significant relationships found concerned respondents' age and the cognitive-behavioural dimension, and respondents' religion and the psychod-spiritual dimension, as described below.

Respondents' age was negatively correlated with the cognitive-behavioural dimension, r_s (286) = -.13, p = .02, however the effect size is small. An ANOVA was used to investigate the relationship between respondents' religion and their endorsement of underlying dimensions of attitude. Categories of religion constituted by fewer than ten respondents were collapsed into a single "other" category. Levene's test indicated unequal variances for the psychod-spiritual dimension (F = 2.48, p = .05), and group sizes were unequal (no religion, n = 96, agnostic, n = 36, atheist, n = 58, Christian, n = 76, other, n = 22). Therefore, the Welch adjustment and the Games-Howell post hoc test were employed. A significant effect of religion on the psychod-spiritual dimension was found, F(4, 92) = 5.87, p < .001, indicating the religion groups had different average scores on the psychod-spiritual dimension. The estimated omega squared (ω^2 = .06) indicated approximately 6% of the total variance (a medium effect size) was attributable to differences in religion.

Games-Howell post hoc tests were conducted to determine which pairs of the five religion category means differed significantly. The results indicated the atheist group (M = -.44, S.D. = .86) had a significantly lower average score on the psychod-spiritual dimension

than the Christian (mean difference = -.49; 95% CI = -.95, -.03; $p < .05$), agnostic (mean difference = -.88; 95% CI = -1.41, -.35; $p < .001$), or no religion (mean difference = -.48; 95% CI = -.89, -.07; $p < .05$), groups.

4. Discussion

The aim of this exploratory attitude study was to investigate the attitudes of trainee clinical psychologists as an indication of how psychologists conceptualise mental disorder. Tentative comparisons with psychiatrists are drawn based on a pilot study conducted by Harland et al. (2009) which used a similar methodology. It was hypothesised findings would suggest psychologists' and psychiatrists' understandings of mental disorder differ. Specifically, it was expected; 1) the extent to which attitudes reflected endorsement of models would vary with diagnostic category but in a different pattern to psychiatrists, and overall the psychosocial models (social realsist and constructionist) would be most strongly endorsed, 2) underlying attitude dimensions would be found in the patterns of model endorsement, and 3) relationships would be found between demographic and professional characteristics of psychologists and their endorsement of the underlying attitude dimensions. Findings are discussed below.

4.1. Patterns of Model Endorsement

As expected, the trainee clinical psychologists (hereon referred to as the psychologists) endorsed different models for different diagnostic categories, but in a different pattern to the Harland et al. (2009) psychiatrists (hereon referred to as Harland's psychiatrists). This finding is consistent with previous research indicating the attitudes of psychologists and psychiatrists towards mental disorder differ and indicates differences in implicit model endorsement (e.g. Kingsbury, 1987; Morrison & Hanson, 1978; Read, 2012 [Section A]; Wyatt & Livson, 1994).

Disregarding diagnostic category, the social realist model was most strongly endorsed by psychologists, significantly more than any other model. This was reflected by the most agreed-with MAQ statement for all diagnostic categories (GAD, MDD, APD, and schizophrenia) being social realist concerning aetiology, suggesting the psychologists saw the reality of a person's social situation as a causal factor in their coming to receive a range of psychiatric diagnoses. There was only a small difference (effect size) between endorsement of social realist and social constructionist models. These psycho-social models consisted of MAQ statements such as, 'Social factors such as prejudice, poor housing and unemployment are the main causes of the disorder' (social realist, aetiology), and 'There is no universal classification of disorder, only culturally relative classifications' (social constructionist, classification). As expected, these findings suggest the immediate social circumstances of the individual, as well as the wider social context (systemic factors), are important in psychologist's conceptualisation of mental disorder.

The biological model was one of the least endorsed models by the psychologists. This was reflected by one of the two most disagreed with MAQ statements being biological, concerning classification. The rejection of this MAQ statement suggests the psychologists

felt labelling GAD, MDD, and APD primarily in terms of biological factors would be unhelpful and/or inappropriate even if clear pathophysiological understandings were available. The spiritualist model was least strongly endorsed, but only marginally less (effect size) than the biological and nihilist models. The biological model was represented by statements such as 'The appropriate study of the disorder involves discovery of biological markers and the effects of biological interventions' (biological, research). Harland et al. (2009) suggest the biological model was the most strongly endorsed overall for psychiatrists, whilst the social realist model was middling in the hierarchy of model endorsement.

The biological model as represented in the MAQ is similar to Blaney's (1975) medical model in conceptualising mental disorders as organic disorders. Thus, findings support the theory psychologists make more use of psychosocial factors in their understanding of mental disorder and less use of the medical/biological model than psychiatrists do (Morrison & Nevid, 1976; Morrison & Hanson, 1978; Read, 2012 [Section A]; Wyatt & Livson, 1994). It should be noted the definition of the medical model today has been challenged and arguably evolved from Blaney's conceptualisation (Craddock et al., 2008; Shah & Mountain, 2007).

Only a small difference (effect size) between psychologists' endorsement of the cognitive, psychodynamic, and behavioural, models was found overall. This suggests what are arguably the three main models used in therapy, are seen as of approximately equal value by psychologists. This is perhaps surprising given guidelines for evidence based practice frequently indicate cognitive behavioural approaches (NICE, 2012). The finding could indicate an appreciation of multiple factors in understanding mental disorder, or lack of faith in or ignorance of guidelines. Alternatively, guidelines are treatment focussed, so these results may indicate psychologists' attitudes regarding aetiology, classification, research

(factors captured by the MAQ besides treatment attitudes), are not necessarily consistent with their treatment attitudes.

When diagnostic category was taken into account, small (effect size) differences in the psychologists' model endorsement between diagnostic categories were found for the social realist, social constructionist, psychodynamic, nihilist, and spiritualist models. Only the cognitive, behavioural, and biological models showed any medium to large (effect size) differences. This might indicate professional confidence concerning what are arguably the more researched models allowing discerning attitudes. These are discussed below.

The cognitive model was less strongly endorsed for schizophrenia and APD, than for MDD and GAD. This reflects one of the most disagreed with statements suggesting psychologists believe the cognitive model alone cannot adequately explain the causes of symptoms associated with the diagnostic category of schizophrenia. This may reflect the prevalence of diathesis-stress models incorporating biological and social factors, as well as cognitive factors, in explaining schizophrenia (Walker & Diforio, 1997). These findings may also reflect the behaviour emphasis in the diagnostic criteria for APD, and the relative strength of research supporting cognitive behavioural therapy (CBT) for MDD and GAD (NICE, 2012). The latter suggests the cognitive and behavioural models are seen as synonymous by psychologists.

Findings for the cognitive model do not clearly reflect the pattern of results found for Harland's psychiatrists although the cognitive model did appear relatively less endorsed for schizophrenia by Harland's psychiatrists. The Harland et al. findings suggest a biological understanding of schizophrenia which could support the biological treatments (e.g. antipsychotics) provided by psychiatrists for persons diagnosed with schizophrenia. Given psychiatrists provide talking therapies less routinely than psychologists, and psychologists do

not prescribe, it is possible attitudes are informed by evidence concerning the differing treatment modalities used by each profession.

The behavioural model was less strongly endorsed for schizophrenia than it was for APD. This finding was similar for Harland's psychiatrists. It may reflect the emphasis on behavioural characteristics in the diagnostic criteria for APD vs. the strong history of biological research, conceptualisation, and treatment of, schizophrenia (Cutting, 1987). The biological model was more strongly endorsed for schizophrenia than for both APD and GAD corroborating this theory. The fact the biological model appeared perceived less helpful in conceptualising GAD than schizophrenia may also be partly due to the increasing evidence base for psychological treatments for GAD (Hunot, Churchill, Teixeira, & Silva De Lima, 2010).

4.2. Underlying Attitude Dimensions

As expected, underlying dimensions were found. Three principal components were extracted from the aggregated attitude scores; non-biol socio-nihilist, cognitive-behavioural, and psychod-spiritual. The pattern of model endorsement can be understood in terms of these three main underlying attitude dimensions, constituted of the models reflected by the MAQ attitude statements. Details of the analysis conducted by Harland et al. (2009), such as factor loadings, were not available, so comparisons are limited. However, as expect there are clearly differences in the components extracted. This suggests the organisation of Harland's psychiatrists' implicit conceptualisation of mental disorder differs from that of the psychologists.

For the psychologists, the non-biol socio-nihilist dimension is suggestive of the type of medical-psychosocial continuum found by Morrison and colleagues (e.g. Morrison & Hanson, 1978; Morrison & Nevid, 1976). As stated previously, the MAQ representation of the biological model is similar to Blaney's (1975) medical model, and the 'socio' element of the dimension is compatible with the psychosocial end of the continuum. Furthermore, consisting of statements such as '*all classifications and 'treatments' of the disorder are* myths' (nihilist, classification), the 'nihilist' element of the dimension suggests a rejection of the medical/biological model. Notably Szasz (1974), author of The Myth of Mental Illness, with whom the aforementioned MAQ nihilist statement can be associated, did not consider himself a nihilist or anti-psychiatry. Whilst Harland et al. (2009), report a biological versus non-biological dimension, there was no obvious suggestion of the Morrison and colleagues medical-psychosocial continuum (e.g. Morrison & Hanson, 1978; Morrison & Nevid, 1976).

The cognitive-behavioural dimension found in the present study was not found for Harland's psychiatrists. The dimension may reflect the prominence of CBT (Roth & Fonagy, 2005). That is, in the late 80s, early 90s, the cognitive and behavioural models merged when cognitive therapy was combined with behavioural therapy to form CBT. It is therefore unsurprising psychologists may effectively organise their attitudes as if these models were indistinct. This theory supports findings noted earlier regarding the relative popularity of the cognitive model for MDD and GAD vs. schizophrenia and APD. The cognitive-behavioural model may be less relevant to psychiatrist's understandings of mental disorder given their reduced exposure to psychological therapies.

The psychod-spiritual dimension was again found for psychologists but not for Harland's psychiatrists. It suggests the psychologists may see the psychodynamic and spiritual models as in some way compatible or indistinct. This may indicate the psychodynamic model, like spiritualism, is seen as relatively non-scientific. Cognitive-

behavioural approaches are intrinsically linked to the scientific method and have the strongest scientific evidence base (Roth & Fonagy, 2005). It may be psychodynamic approaches in contrast, have become associated primarily with qualities shared with spirituality, e.g. a focus on that of which we are not necessarily consciously aware. It could be argued MAQ statements constituting the spiritual model such as 'The disorder is better understood through religious or spiritual insights' are compatible with aspects of psychodynamic approaches such as offering interpretations (although not commonly conceived as literally spiritual).

4.3. Underlying Attitude Dimensions and Respondents' Characteristics

Findings concerning the relationship between trainees' demographic and professional background characteristics (age, years in education, religion, sex, and years of professional experience) and the three underlying attitude dimensions identified (non-biol socio-nihilist, cognitive-behavioural, and psychod-spiritual), suggest only psychologists' religion has a meaningful influence on attitudes. Results suggest atheists endorsed a psychod-spiritual attitude less strongly than Christians, agnostics, or those reporting no religion. This may indicate atheism's allegiance to the scientific method (e.g. Dawkins, 2007). If the psychodynamic and spiritual models are perceived as a non-scientific as suggested above, these results perhaps reflect the atheists' rejection of that perceived as incompatible with empirical science.

The Harland et al. (2009) investigation of relationships between psychiatrist characteristics and attitude dimensions were limited by their small sample size, hence no comparisons were drawn. The paucity of relationships between psychologists' characteristics and their underlying attitude dimensions suggests psychologists' attitudes regarding mental

disorder are largely informed by their shared training experience. It is hypothesised this is the case for psychiatrists also, which explains the consistent inter-professional differences observed here and in other studies (Read, 2012 [Section A]).

The above hypothesis implies problems arising as a result of differences in the way psychologists and psychiatrists conceptualise mental disorder would be best addressed during their professional training. Colombo, Bendelow, Fulford, & Williams recommend, "...in the absence of conclusive scientific facts about mental disorder, [...] multi-disciplinary training initiatives promoting the principals and utility of different explicit models" should be employed (2003, p. 1566-1567). A greater emphasis on such initiatives may help professionals appreciate pros and cons of a range of approaches and perspectives, and gain skills in inter-professional working and decision-making. Perhaps professions must train together to a greater extent in order to learn to work to together effectively.

4.4. Strengths and Limitations

A particular strength of the present study was that the entire population of UK trainee clinical psychologists was approached for participation in this study and the resulting sample was large and appeared to be approximately representative of the population. Whilst it remains possible the sample was biased in connection with courses opting out, and trainees not volunteering or dropping out, findings are likely to be relatively reliable and tentative generalisations can be made for all UK trainee clinical psychologists. Qualified psychologists may hold differing attitudes (a matter for future research). Use of an online questionnaire minimised procedural bias and ensured minimal missing data. Comparisons with psychiatrists were limited by the small convenience sample used by Harland et al.

(2009). Future research with large samples from different disciplines, service users and the lay-public, would allow more reliable/informative comparisons to be made.

The questionable psychometric properties of the MAQ are a limitation of this study. The MAQ has been found to have adequate construct validity with psychiatrists. Convergent validity cannot be assessed as no similar questionnaire exists. The use of a single questionnaire could be construed as narrow data collection, however adding additional questions/questionnaires to the 128 item (plus significant extra demographic questions) MAQ might have lead increased drop out due to participant fatigue. No formal test of internal consistency was made by Harland et al. (2009). The formal test performed for the present study showed an acceptable level of internal consistency of the aggregated attitude scores (see 2.3. Analysis), and the PCA conducted for the present study implied the eight models reflected in the MAQ were seen as distinct by psychologists. However, no test of internal consistency of the full 128 item questionnaire was performed, and no test of construct validity has been conducted for use of the MAQ with psychologists. Results of the present study indicate the questionnaire may not be valid for use with psychologists. For example, no model was strongly endorsed by psychologists, possibly indicating responding bias.

In connection with the above, whilst the 29% dropout rate is thought most likely to be a result of the participant fatigue, it is also possible it reflects a rejection of the MAQ. Qualitative feedback from respondents indicated the MAQ terminology was not ecologically valid. For example, the term ‘maladaptive’ is used in the representation of the cognitive model where psychologists might more usually use the term ‘unhelpful’. Thus, low levels of endorsement observed may reflect rejection of the language used in statements rather than of the model represented. Furthermore, feedback suggested some psychologists were not comfortable with the use of diagnostic categories. It was suggested the term schizophrenia is

not commonly used/found useful by psychologists (rather terms such as psychosis may be used to describe specific symptoms). Respondents may have been inclined to be non-committal in response to a category perceived as broad. The use of vignettes (without diagnostic labels) may provide greater ecological validity. No tests of reliability have been conducted with either profession, thus the stability of the attitudes being measured is questionable. Future research may seek to revise the MAQ, testing reliability and validity.

5. Conclusions

Findings of the current study suggest psychologists endorse different models for different diagnostic categories of mental disorder. When compared to the findings of Harland et al. (2009) for psychiatrists on which this study builds, the hypothesis psychologists make more use of psychosocial factors in understanding mental disorder and less use of medical/biological factors than do psychiatrists is supported. Furthermore, findings suggest there are fundamental differences in psychologists and psychiatrists' implicit models of mental disorder. Psychologists appear to take positions on a biological-psychosocial continuum, and on scales of cognitive/behavioural and psychodynamic/spiritual model endorsement. Findings of the present study suggest profession may be the principal factor explaining practitioners' understandings of mental disorder. It is therefore recommended there should be greater emphasis on multidisciplinary training initiatives to equip professionals to work constructively with difference. Limitations of the present study and of

Harland et al. (2009) mean further research is required before conclusions can be drawn with confidence.

References

Beck, A. T. (1991). A 30- Year Retrospective, American Psychologist, 46(4), 368-375.

Blaney, P. H. (1975). Implications of the medical model and its alternatives. The American Journal of Psychiatry, 132(9), 911-914.

Clearing House for Postgraduate Courses in Clinical Psychology. (2011). Clearing House - Basics - Equal opportunities numbers. Retrieved June 6, 2012, from http://www.leeds.ac.uk/chpccp/BasicEqualopps.html

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). New Jersey: Routledge.

Colombo, A., Bendelow, G., Fulford, B., & Williams, S. (2003). Evaluating the influence of implicit models of mental disorder on processes of shared decision making within community-based multi-disciplinary teams. Social Science & Medicine, 56(7), 1557-1570.

Craddock, N., Antebi, D., Attenburrow, M.-J., Bailey, A., Carson, A., Cowen, P., Craddock, B., et al. (2008). Wake-up call for British psychiatry. The British Journal of Psychiatry, 193(1), 6-9.

Cutting, J. (1987). The clinical roots of the schizophrenia concept: Translations of seminal European contributions on schizophrenia (Vol. 8). Cambridge: Cambridge University Press.

Dawkins, R. (2007). The God Delusion. London: Black Swan.

Engel, G. (1977). The need for a new medical model: A challenge for biomedicine. Science, 196(4286), 129-136.

Field, A. (2006). Discovering Statistics Using SPSS (2nd ed.). London: SAGE Publications Ltd.

Health and Care Professions Council. (2012). Standards of Proficiency: Practitioner psychologists. London: Health and Care Professions Council.

Hannigan, B. (1999). Joint working in community mental health: Prospects and challenges. Health & social care in the community, 7(1), 25-31.

Harland, R., Antonova, E., Owen, G. S., Broome, M., Landau, S., Deeley, Q., & Murray, R. (2009). A study of psychiatrists' concepts of mental illness. Psychological Medicine, 967-976.

Haugen, M. L., Tyler, J. D., & Clark, J. A. (1991). Mental health values of psychotherapists: How psychologists, psychiatrists, psychoanalysts, and social workers conceptualize good mental health. Counselling and Values, 36(1), 24-36.

Heinze, G., & Cortes, J. (2005). Treatment preference and attitude toward pharmacotherapy and psychotherapy in Latin America. Salud Mental, 28(1), 10-17.

Heinze, G., Torres, M., & Cortes, J. (1999). Attitudes of health professionals towards prescribing psychodrugs. Salud Mental, 22(6), 1-7.

Hunot, V., Churchill, R., Teixeira, V., & Silva De Lima, M. (2010). Psychological therapies for generalised anxiety disorder. Cochrane Database of Systematic Reviews, 2010(4), 1-89.

Höglund, P., Levander, S., Anckarsäter, H., & Radovic, S. (2009). Accountability and psychiatric disorders: How do forensic psychiatric professionals think? International journal of law and psychiatry, 32(6), 355-361.

Kingsbury, S. J. (1987). Cognitive differences between clinical psychologists and psychiatrists. The American psychologist, 42(2), 152-6.

Kleinman, A. (1988). The illness narratives: Suffering, healing, and the human condition. New York: Basic Books.

Kline, P. (2000). The Handbook of Psychological Testing. London: Routledge.

Leichsenring, F., & Leibing, E. (2007). Psychodynamic psychotherapy: a systematic review of techniques, indications, and empirical evidence. Psychology and psychotherapy, 80(2), 217-28.

Longman, R. S., Cota, A. A., Holden, R. R., & Fekken, G. C. (1989). A regression equation for the parallel analysis criterion in principal components analysis: Mean and 95th percentile eigenvalues. Multivariate Behavioral Research, 24(1), 59-69.

Malone, D., Marriott, S., Simmonds, S., & Tyrer, P. (2010). Community mental health teams (CMHTs) for people with severe mental illnesses and disordered personality (Review). Cochrane Database of Systematic Reviews, 2010(3), 1-35.

Meredith, L. S., Wells, K. B., & Camp, P. (1994). Clinician specialty and treatment style for depressed outpatients with and without medical comorbidities. Archives of Family Medicine, 3, 1065-1072.

Morrison, J. K., & Hanson, G. D. (1978). Clinical psychologists in the vanguard : Current attitudes toward mental illness. Professional Psychology, (May), 240-248.

Morrison, J. K., & Nevid, J. S. (1976). Attitudes of mental patients and mental health professionals about mental illness. Psychological Reports, 38(2), 565-566.

NICE. (2012). NHS National Institute for Health and Clinical Excellent (NICE). Retrieved June 11, 2012, from http://www.nice.org.uk/

Nordt, C., Rössler, W., & Lauber, C. (2006). Attitudes of mental health professionals toward people with schizophrenia and major depression. Schizophrenia bulletin, 32(4), 709-714.

Norman, I. J., & Peck, E. (1999). Working together in adult community mental health services: An inter-professional dialogue. Journal of Mental Health, 8(3), 217-230.

Perloff, R. M. (2010). The Dynamics of Persuasion: Communication and Attitudes in the 21st Century. London: Taylor & Francis.

Rabkin, J. G. (1972). Opinions about mental illness: A review of the literature. Psychological Bulletin, 77(3), 153-171.

Read, R. J. (2012). *Psychologists' and psychiatrists' attitudes towards mental disorder*. Salomons, Canterbury Christ Church University.

Roth, A., & Fonagy, P. (2005). What works for whom? A critical review of psychotherapy research (2nd ed.). New York: Guilford Press.

Royal College of Psychiatrists. (2012). The Royal College of Psychiatrists: Training. Retrieved June 25, 2012, from http://www.rcpsych.ac.uk/specialtytraining.aspx

Shafranske, E. P., & Malony, H. N. (1990). Clinical psychologists' religious and spiritual orientations and their practice of psychotherapy. Psychotherapy: Theory, Research, Practice, Training, 27(1), 72-78.

Shah, P., & Mountain, D. (2007). The medical model is dead-long live the medical model. The British journal of psychiatry, 191, 375-377.

Szasz, T. S. (1974). The Myth of Mental Illness. New York: HarperCollins.

Tabachnick, B. G., & Fidell, L. S. (2001). Using Multivariate Statistics 4th edition. Boston: Pearson Education.

Tesser, A. (1993). The importance of heritability in psychological research: The case of attitudes. Psychological review, 100(1), 129-142.

National Institute for Mental Health in England. (2007). New Ways of Working for Everyone: A best practice implementation guide. London.

Wahass, S., & Kent, G. (1997). A cross-cultural study of the attitudes of mental health professionals towards auditory hallucinations. International Journal of Social Psychiatry, 43(3), 184-192.

Walker, E. F., & Diforio, D. (1997). Schizophrenia: A neural diathesis-stress model. Psychological Review, 104(4), 667-685.

Wolpe, J. (1973). The practice of behavior therapy (2nd ed.). Oxford: Pergamon Press.

Wyatt, R. C., & Livson, N. (1994). The not so great divide? Psychologists and psychiatrists take stands on the medical and psychosocial models of mental illness. Professional Psychology: Research and Practice, 25(2), 120-131.

REBECCA J. READ BA Hons MSc

PROFESSIONALS ATTITUDES TOWARDS MENTAL DISORDER

Section C:

Critical Appraisal

Word Count: 1956 (-19)

JULY 2012

SALOMONS
CANTERBURY CHRIST CHURCH UNIVERSITY

1. Learning

What research skills have you learned and what research abilities have you developed from undertaking this project and what do you think you need to learn further?

The multiple competing time demands involved in completing this project whilst on a full-time, assessed, DClinPsy programme presented significant challenges. Practical project management skills gained in previous employment provided a sound foundation. However, the exceptional pressure of competing practical and emotional demands (e.g. course requirements, client work, and personal life commitments) importantly necessitated finding ways of managing time such that I could care for myself and loved ones. For example, I feel I have developed clearer work/life boundaries that enable me to function to the best of my abilities under stress. I look forward to building on these skills as a reflective scientist practitioner seeking to conduct research within the NHS.

On a practical level, my knowledge of statistics and skills in the use of SPSS have been greatly developed through the process of conducting this study. In relation to this, my confidence in using advanced statistical methods (e.g. principal components analysis), and ability to critique the work of others has grown. My first degree in philosophy, provided me with abilities in rigorous, structured, systematic, thinking and reasoning, and formal logic, which has undoubtedly been helpful to me in conducting this study, but it did not provide me with any practical skills in 'doing' statistics. My subsequent MSc in experimental psychology involved statistics modules equivalent to those taught in a psychology undergraduate degree, but these were learnt in the space of a one-year degree so did not allow for much consolidation of learning through 'doing'.

I went on to work in clinical psychology research after my MSc. I have often had to explain to people that whilst I have a research background, my statistical abilities are limited as the projects I worked on were large and employed specialist statisticians. My lack of confidence with 'doing' statistics until now had become almost an embarrassing secret. I aimed to conduct an MRP that would involve quantitative methodology to have an opportunity to address this issue. I feel the project was a success in that I now feel confident about tackling advanced statistical methods in practice. I would like to further develop and consolidate these skills through conducting or supervising further research and/or teaching research methods. Similarly, there is scope to develop my skills and abilities in qualitative research.

The increased awareness of statistical methodology I gained through working on this study has opened my eyes somewhat to the realities of published research. Before embarking on the present study, I had assumed studies published in high profile peer-reviewed journals would be of a higher quality than I have since found them to be in some instances. In particular, survey research does not have well established and adhered to guidelines (Bennett et al., 2010).

As a consequence of completing the present study I have developed a more sophisticated appreciation of the complexity of the task of producing research that might meet criteria for being of 'high quality' across multiple dimensions (e.g. design, procedure, analysis, and reporting). For example, I initially underestimated limitations of the findings of the Harland et al. (2009) study on which the present study was based. I am now more able to appreciate the implications and worth of the Harland et al. (2009) study as an interesting pilot study that may stimulate further research. I suspect my background of working for well-respected researchers, combined with gaps in my knowledge and experience, may have

contributed to a tendency to accredit unrealistic expertise to perceived experts in research. I will take this learning forward in my own digestion of research in the future.

Discussions with my psychiatrist supervisor Matthew Broome facilitated experiential learning, as we were both able to experience and reflect upon our professional stereotypes. I found this very valuable as it highlighted the impact of my subjective position on my research. This is an area less emphasised in quantitative research than qualitative research. For me, it emphasised the importance of high quality reporting in all research, such that the reader can draw their own conclusions based on the results, and potentially attempt to replicate the study.

2. Changes

If you were able to do this project again, what would you do differently and why?

One of the main limitations of the project was the fact the MAQ questionnaire used had not been validated or tested for reliability with psychologists. The attitude questions in the MAQ could not have been changed because this would have invalidated comparisons with the findings for the Harland et al. (2009) psychiatrists. However, if I were able to do this project again, I would conduct separate reliability and validity studies with psychologists to inform the findings of the main project (assuming some degree of reliability and validity were found). A validity study would facilitate assessment of whether the high levels of neutral attitude or disagreement observed in the psychologists were a reflection of their feelings about the usefulness of models in understanding mental disorder, or whether it was

more likely to be a reflection of their dislike of the language used in representing the model. A test-retest reliability study would facilitate assessment of whether attitudes observed were likely to be relatively stable across time (although obviously attitudes are subject to change to some extent). Ideally, the MAQ would have been designed for use with psychologists and psychiatrists and tested for reliability and validity accordingly. I think by highlighting the differences between the professions, this study helps to illustrate the need for multidisciplinary measures to be developed, e.g. because terms such as "mental disorder" and "diagnosis" may have different meanings and implications for different professionals.

3. Clinical recommendations and practice

As a consequence of doing this study, would you do anything differently in regard to making clinical recommendations or changing clinical practice, and why?

Whilst conclusions are drawn tentatively from the present project, the main finding appears reliable i.e. difference in understandings of mental disorder exists between the professions. As such, I will take forward a main recommendation of this study; that there should be a greater emphasis on multidisciplinary training initiatives to promote the principles and utility of different explicit models of mental disorder. Such training could usefully help professionals appreciate the pros and cons of a range of approaches and perspectives, and promote skills in inter-professional working and decision-making. As a clinician, I will seek to take part in such training, and organise multidisciplinary training events where possible. I will also have greater confidence when encouraging open discussion

of differing professional perspectives in practice generally as natural, valuable, potentially useful aspects of multidisciplinary working.

I hope it will be possible to share this way of working with clients, who may be involved in the collaborative process of shared decision-making for example. This approach fits with initiatives calling for multi-disciplinary teams to develop procedures that involve service users in all aspects of service delivery and planning (Bracken & Thomas, 2001). Through working in this way, I hope potential conflict and confusion arising because of differing understandings of mental disorder may be minimised whilst strengths of having many ways of approaching problems are maximised.

On a personal level, I feel the process of conducting this project has better equipped me to engage in multidisciplinary communication. Whilst I appreciate every professional is an individual and within profession differences no doubt exist, I feel I have a better understanding of the fundamental differences between the mental health professions, which may result predominately from training. Hence, I have a better understanding of how to represent a psychological perspective in a way that may bridge the gap between the professions. For example, I will focus on presenting the perspective I have gained predominantly through training as one perspective of many, which may be helpful in clinical decision making whilst recognising others have equally valuable contributions to make. This approach may help interactions seem less about personal opinion and more about professional (and service-user) expertise. I appreciate problems can arise where power dynamics may preference certain perspective over others (Colombo et al., 2003). In the absence of hard scientific facts, the present study lends support in challenging such dynamics.

4. Future research

If you were to undertake further research is this area, what would that research project seek to answer and how would you go about doing it?

This area of research is not strongly underpinned by theory. Therefore, I would like to conduct further research that sought answer the question 'how do we conceptualise mental disorder' similarly to the present project, but focus on establishing a sound theoretical basis for research in this area in the first instance. A number of steps might be involved to these ends. An initial step might be to extensively revise the MAQ/develop a new attitude measure. Whilst the MAQ captures attitudes consistent with a wide range of models of mental disorder, it nevertheless restricts the expression of attitudes to specific models of mental disorder without a strong theoretical justification. Furthermore, the feedback I received from participants suggested the terminology used in the MAQ was not ecologically valid for psychologists. The language issue may also make the MAQ unsuitable for use with the general-public. Ideally, a measure capturing attitudes to mental disorder would not only be multidisciplinary, but also suitable for use with lay-public, as this would inform our understanding of for example, the shared decision-making process.

In order to capture a comprehensive impression of the way mental health professionals and the lay-public conceptualise mental disorder, a qualitative methodology could be employed. A sample consisting of professionals from a range of disciplines as well as members of the public could be interviewed regarding their attitudes towards individuals with a psychiatric diagnosis, and regarding aetiology, diagnosis, treatment approaches, prognosis, i.e. the dimensions of mental disorder indicated as clinically relevant in the literature review conducted as part of this MRP. Vignettes representing diagnostic categories

of mental disorder could be used as a basis for interview questions to increase ecological validity. The above would be ambitious for a single study and could be broken down into several studies of individual populations and/or individual diagnostic categories of disorder using the same qualitative interview process. This pragmatic approach would nevertheless yield interesting findings for each study conducted.

Once collected, data from qualitative studies as described above could be built upon, for example by using the findings of a content analysis to develop an attitude measure which was not only multidisciplinary but which was suitable for use with the public. Using principal components analysis in the process of developing such a questionnaire could then allow the underlying structure of people's conceptualisations of mental disorder to be modelled and conclusions regarding patterns of responses between and within groups to be drawn. Gaining a more comprehensive, theoretically sound means of measuring attitudes in this way would provide a sound basis for investigating the relationship between attitudes and behaviour in practice, perhaps borrowing from social psychology theory (e.g. Ajzen, 1991).

I appreciate the above represents an ambitious project and as a practising clinician I would be unlikely to have the resources to conduct the entirety of the project myself. As such, the above project might be adapted and conducted as a qualitative pilot study with the staff members and clients of a multidisciplinary service of which I was a member with the aim of informing improved shared decision-making with service user involvement for example. Such a project would hopefully enable implicit models of mental disorder to be made explicit and discussed openly and constructively.

References

Ajzen, I. (1991). The theory of planned behavior. Organizational behavior and human decision processes, 50(2), 179-211.

Bennett, C., Khangura, S., Brehaut, J. C., Graham, I. D., Moher, D., Potter, B. K., & Grimshaw, J. M. (2010). Reporting guidelines for survey research: An analysis of published guidance and reporting practices. PLoS Medicine, 8(8), 1-11.

Bracken, P., & Thomas, P. (2001). Postpsychiatry: A new direction for mental health. British Medical Journal, 322(7288), 724-727.

Colombo, A., Bendelow, G., Fulford, B., & Williams, S. (2003). Evaluating the influence of implicit models of mental disorder on processes of shared decision making within community-based multi-disciplinary teams. Social Science & Medicine, 56(7), 1557-1570.

Harland, R., Antonova, E., Owen, G. S., Broome, M., Landau, S., Deeley, Q., & Murray, R. (2009). A study of psychiatrists' concepts of mental illness. Psychological Medicine, 967-976.

REBECCA J. READ BA Hons MSc

PROFESSIONALS ATTITUDES TOWARDS MENTAL DISORDER

Section D:

Appendices

JULY 2012

SALOMONS
CANTERBURY CHRIST CHURCH UNIVERSITY

Appendix A

Systematic Review Method

Protocol

This review was informed by the PRISMA statement, which whilst developed as guidance for reviewers seeking to summarize the harms and benefits of a health care intervention, is recommended to be adapted for any form of review (Moher, Liberati, Tetzlaff, & Altman, 2009).

Eligibility Criteria

The primary aim of the present review was to verify the hypothesised attitude differences between clinical psychologists and psychiatrists. Hence, only studies utilising an empirical research method were included. Previous reviews in related areas of attitude research have noted the lack of standardised measures used and the consequent difficulty in making comparisons across studies (e.g. Werner & Stawski, 2012). Therefore, it was required that included studies reported data for both psychologists and psychiatrists allowing comparisons to be made. To minimise confounding factors, inclusion was restricted to studies that explored attitudes towards mental disorder generally or in working age adult populations. Therefore, studies investigating attitudes towards aspects of mental disorder specifically in children or older-adults were excluded. In order to capture a relatively current overview of professionals' attitudes, studies were required to have been published after 1990.

To ensure a certain base level of source quality, only studies published in peer-reviewed journals were included. Non-English journals were excluded for pragmatic reasons.

Information Sources, Search Strategy, and Study Selection

An electronic keyword search using PsycINFO (1806 – present), Medline (1946 – present), Web of Science (1900 – present), and EBM Reviews (2005 – present) was conducted in March 2012. Search terms were over-inclusive in order to capture all relevant studies in a poorly defined area: "psychologist" or "psychiatrist", was combined with "attitude", and either "mental disorder" or "mental illness" or "mental health" or "psychiatric disorder "or "psychiatric illness". Truncation was used as appropriate to the information source.

Following the initial electronic search, records were combined, and duplicates and pre-1990 published studies were removed. Abstracts and full references of these studies were screened initially and shortlisted papers were then read in full to ensure eligibility criteria were met. Reference lists of eligible articles and related reviews were examined for relevant papers; no additional papers were identified.

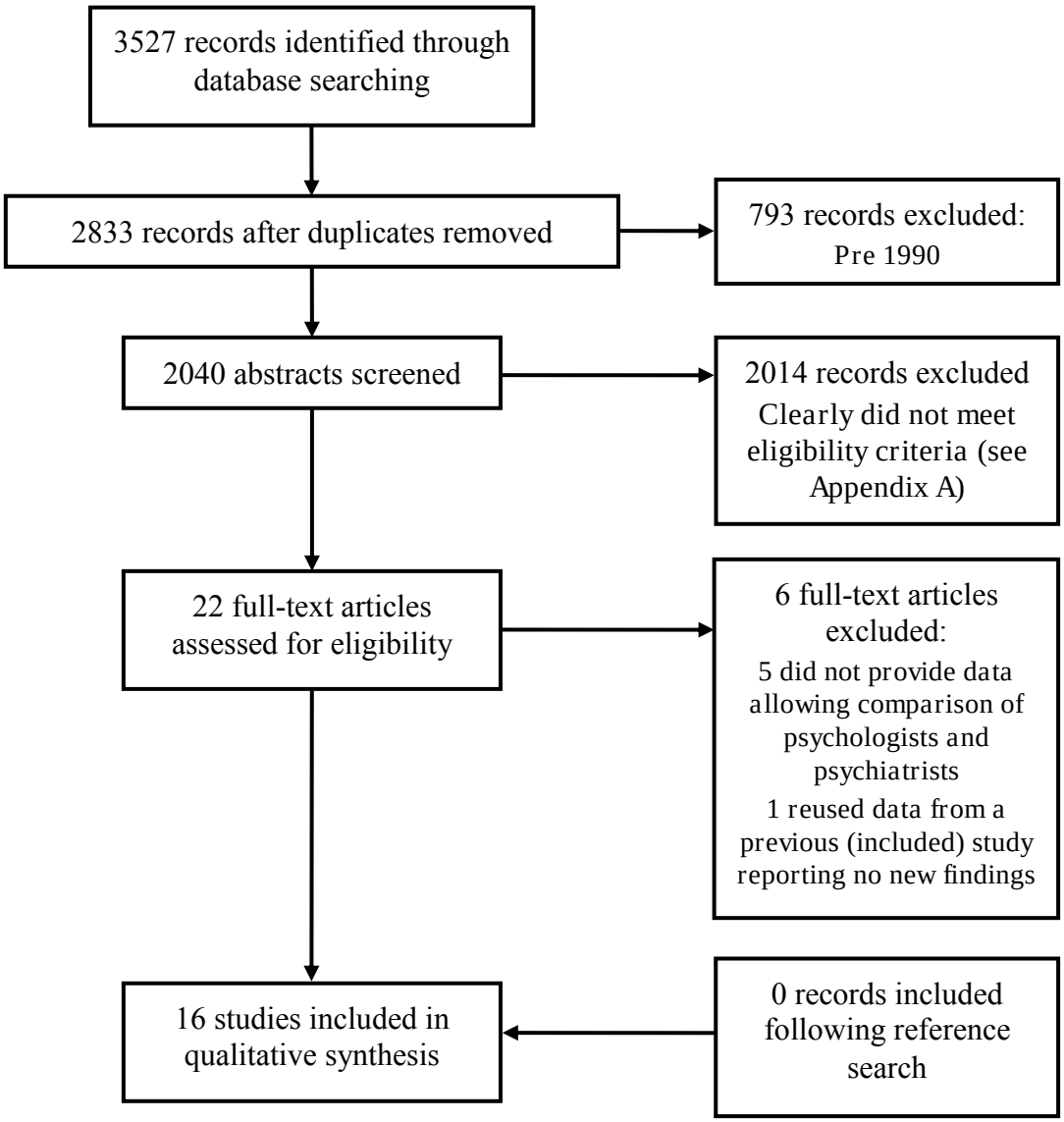
Data Collection, Data Items, Bias, and Synthesis of Results

Information allowing, 1) the comparison of the attitudes of psychiatrists and psychologists, and 2) assessment of other potentially significant explanatory variables besides profession, was extracted. These included descriptive characteristics of the individual

studies, explanatory variables, response variables, and findings. The assessment of risk of bias in individual studies was informed by Bennett et al. (2010) and reported as study limitations (see Appendix C for a summary of this information). The results were synthesised in terms of response variables and grouped into main research themes accordingly in order to provide an indication of findings according to attitude domain.

Appendix B

Flow Diagram of Study Selection*



*Template adapted from Moher, Liberati, Tetzlaff, and Altman (2009)

Appendix C

Summary of Studies Included in Systematic Review

Study	Country/ countries	Participants	No.	Instrument/s	Explanatory variable/s	Response variable/s	Finding/s (for psychologists & psychiatrists)	Limitations
Gilchrist et al. (2011)	Bulgaria Greece Italy Poland Scotland Slovakia Slovenia Spain	Physicians Psychiatrists Psychologists Nurses Social workers	224 181 144 229 67	The Medical Condition Regard Scale	• Patient group (substance and alcohol misusing, depressed, diabetic)* • Age of professional • Sex of professional • Profession* • Years in profession* • Treatment entry point (primary care, general psychiatry specialist addiction)* • Country*	• Regard for working with patient group	• Psychologists reported higher regard for working with substance and alcohol misusers • Agreement on regard for working with depressed and diabetic patients.	• Instrument not tested for validity or reliability with this population • Convenience sampling • Self-report data
Jacobs, Kline, & Schiffman (2011)	USA	Psychologists Psychiatrists General practitioners	130 98 72	Vignettes (representing psychosis, attenuated psychosis syndrome [APS], and no psychotic symptoms)	• Vignette* • Profession*	• Diagnosable mental disorder (yes/no) • Diagnosis provided	• Agreement in choosing whether to diagnose • Psychiatrists more likely to diagnose APS as schizophrenia, another psychotic disorder, or substance abuse • Psychologists more likely to diagnose APS as an adjustment disorder or to defer judgement	• Instrument not tested for reliability • Low response rate (unexplored) • Self report data
Liu et al. (2010)	Taiwan	Psychiatrists Psychologists School counsellors	57 44 50	Vignettes (11, representing gradients of clinical severity ranging from mild stress to first episode psychosis)	• Vignette* • Age of professional • Sex of professional • Profession* • Years of experience with clients with schizophrenia*	• Label selected (diagnostic or otherwise)	• Psychiatrists more likely to consider schizophrenia for all stages of clinical severity	• Instrument not tested for validity or reliability • Non-equivalent group design • Self-report data

Study	Country/ countries	Participants	No.	Instrument/s	Explanatory variable/s	Response variable/s	Finding/s (for psychologists & psychiatrists)	Limitations
Höglund et al. (2009)	Sweden	Psychiatrists Psychologists Nurses Ward attendants	30 30 45 45	Questionnaire including likert scales	• Vignette (5)* • Diagnostic category (13)* • Profession*	• Rating of degree of accountability	• Agreement on ratings of accountability	• Instrument not tested for validity or reliability • Sample not fully random (no data reported on the potential pool of respondents) • No sample size calculation/rational • Unbalanced design (and no demographic information) • Self report data • No information regarding response rate or missing data
Nordt et al. (2006)	Switzerland	Psychiatrists psychologists Nurses Other therapists General population	201 66 676 116 253	Public attitude survey	• Profession* • Sex of participant • Age of participant* • Diagnostic category (depression, schizophrenia)*	• Degree of negative stereotyping • Willingness to restrict rights • Degree of social distancing	• Psychiatrists expressed greater degree of negative stereotyping • Agreement regarding willingness to restrict rights and social distancing	• Instrument designed for public, not validated or tested for reliability with professionals • Low response rate unexplored • Self-report data • Data collected from professionals five years after that collected from general public
Heinze & Cortes (2005)	Latin America	Psychiatrists Physicians Psychologists	668 809 391	Questionnaire including likert scales	• Profession* • Diagnostic category*	• Treatment preference (pharmacology, psychotherapy, combination) • Attitude towards psychoactive drugs • Attitude toward prescription practices	• Psychologists favoured psychotherapy or combined • Psychiatrists favoured combined or psychopharmacology • Psychologists more sceptical about psychoactive drugs • Agreement that prescription practices were poor	• Instrument not tested for reliability • Unbalanced, non-equivalent group design • Unrepresentative sample (no data reported on the potential pool of respondents) • Self-report data • No information regarding response rate or missing data
Steinert et al. (2005)	England Germany Hungary Switzerland	Psychiatrists Psychologists Physicians Social workers Nurses Laypeople	298 73 80 107 427 752	Vignettes (3 patients with schizophrenia: first episode, first relapse, and multiple episode)	• Country* • Profession* • Professional's personal experience of mental disorder	• Attitude towards compulsory admission and treatment	• Psychiatrists more in favour of compulsory procedures	• Instrument not tested for reliability • Unrepresentative sample • Unbalanced, non-equivalent group design • Self-report data • No information regarding missing data

Study	Country/ countries	Participants	No.	Instrument/s	Explanatory variable/s	Response variable/s	Finding/s (for psychologists & psychiatrists)	Limitations
Dorahy & Lewis (2002)	Northern Ireland	Psychologists Psychiatrists	28 58	Questionnaire	• Profession*	• Belief in the existence of dissociative identity disorder (DID) • Level of self-perceived familiarity with DID diagnostic criteria • Explanations of surge in DID prevalence	• Psychiatrists less likely to believe in the existence of DID • Agreement on self-perceived familiarity with DID diagnostic criteria • Psychiatrists were more likely to attribute surge to factitious presentations and misdiagnosis • Psychologists more likely to attribute surge to accurate diagnosis or report uncertainty	• Instrument not tested for validity or reliability • Unbalanced, non-equivalent group design • Self report data • No information regarding missing data
Heinze et al. (1999)	Mexico	Psychiatrists Physicians Psychologists	112 46 33	Questionnaire including likert scales	• Profession* • Diagnostic category*	• Treatment preference (pharmacology, psychotherapy, combination) • Attitude towards psychoactive drugs • Attitude toward prescription practices	• Psychologists favoured psychotherapy or combined • Psychiatrists favoured combined or psychopharmacology • Psychologists more sceptical about psychoactive drugs • Agreement that prescription practices were poor	• Instrument not tested for reliability • Unbalanced, non-equivalent group design • Unrepresentative sample (no data reported on the potential pool of respondents) • Self-report data • No information regarding response rate or missing data
Jorm et al. (1999)	Australia	Laypeople Psychiatrists Psychologists General practitioners	2031 1128 454 872	Vignettes (2, schizophrenia or depression)	• Vignette* • Profession* • Sex of vignette character • Age of professional* • Sex of professional • Service (private, salaried, mixed)* • Frequency of contact with depression/schizophrenia	• Likelihood ratings regarding outcome predictions • Prediction of discrimination (yes/no)	Outcomes: • Depression: Agreement regarding positive, and Psychologists rated negative as less likely • Schizophrenia: Psychologists rated positive as more likely and negative as less likely Discrimination: • Depression: psychologists less likely to predict discrimination • Schizophrenia: agreement	• Instrument designed for public, not validated or tested for reliability with professionals • Unbalanced, non-equivalent group design • Self-report data • No information regarding missing data

Study	Country/ countries	Participants	No.	Instrument/s	Explanatory variable/s	Response variable/s	Finding/s (for psychologists & psychiatrists)	Limitations
Jorm et al. (1997)	Australia	Laypeople Psychiatrists Psychologists General practitioners	2031 1128 454 872	Vignettes (2, schizophrenia or depression)	• Vignette* • Profession*	• Rating of helpfulness of various treatments	• Schizophrenia: psychiatrists rated cognitive behavioural therapy as less helpful, and electroconvulsive therapy as more helpful • Depression: psychiatrists rated person attempting to deal with own problems as more unhelpful	• Instrument designed for public, not validated or tested for reliability with professionals • Unbalanced, non-equivalent group design • Self-report data • No information regarding missing data
Wahass & Kent (1997)	Saudi Arabia UK	Psychologists Psychiatrists	95 98	Questionnaire including likert scales	• Country* • Profession*	In relation to auditory hallucinations (AH): • Associated diagnostic categories • Associated aetiological factors • Ratings of treatment efficacy (pharmacology, psychotherapy, combined) • Ratings of value of clinical roles • Degree of social distancing	• Agreement between professionals from the same country regarding diagnostic categories, aetiology, and social distancing • Psychiatrists showed more faith in pharmacology and less faith in psychotherapy. Agreement for combined approaches • Psychiatrists rated the input of psychology as valuable for fewer patients • Saudi psychologists rated the input of psychiatry as less important • Agreement amongst UK professionals regarding the value of psychiatry	• Instrument not tested for validity or reliability • No sample size calculation/rational • Non-equivalent group design • Self report data
Nolan (1995)	Ireland	Psychologists Psychiatrists Psychiatric nurses nurses Occupational therapists	6 33 18 32 20	Baker Community Mental Health Ideology Scale	• Profession*	• level of commitment to community mental health ideology	• Psychiatrists showed the least level of commitment • Psychologists showed the highest level of commitment	• No sample size calculation/rational • Unbalanced, non-equivalent group design • Low response rate unexplored • Self report data • No information regarding missing data

Study	Country/ countries	Participants	No.	Instrument/s	Explanatory variable/s	Response variable/s	Finding/s (for psychologists & psychiatrists)	Limitations
Meredith et al. (1994)	USA	Family physicians Psychiatrists Medical subspecialists Internists Psychologists Other therapists	91 76 64 194 74 24	Questionnaire including likert scales	• Profession*	• Preferred treatment for depression (counselling, antidepressants)	• Psychiatrists reported the strongest preference for prescribing antidepressants, psychologists reported the weakest preference • Agreement on preference for counselling	• Instrument not tested for validity • Self-report data
Wyatt & Livson, (1994)	USA	Psychologists Psychiatrists	82 69	Mental Health Questionnaire (MHQ)	• Profession* • Sex of professional • Weekly hours of direct patient contact • Work setting • Level of patient disturbance worked with • Years of experience* • Theoretical orientation*	• Practitioner positions within the domains of the medical and psychosocial models of mental illness	• 6 distinctive factors found • Professions differed on 5 of the 6 factors • Psychiatrists gave more medical or less psychosocial ratings • Clear disagreement on medical ideology factor only • Psychologists more homogeneous	• Low response rate not explored • Self-report data
Haugen, Tyler, & Clark (1991)	USA	Psychoanalysts Psychiatrists Psychologists Social workers	69 73 107 108	Mental health values questionnaire (MHVQ)	• Profession* • Sex of professional*	• Extent to which various personal qualities were perceived to be associated with poor mental health	• Psychologists perceived high levels of untrustworthiness to be more indicative of poor mental health than did psychiatrists • Agreement regarding self-acceptance, negative traits, achievement, affective control, good interpersonal relations, religious commitment, and unconventional reality	• Unbalanced, non-equivalent group design • Self-report data • No information regarding missing data

*Explanatory variables found to be significant
NB. Number of participants provided is for number included in analysis, and unbalanced and/or non-equivalent group design is noted as a limitation when no appropriate compensatory analysis was used.

Appendix D

CAMBRIDGE | Instructions for Contributors

Psychological Medicine

Editorial Policy

Psychological Medicine is a journal aimed primarily for the publication of original research in clinical psychiatry and the basic sciences related to it. These include relevant fields of biological, psychological and social sciences. Review articles, editorials and letters to the Editor discussing published papers are also published. Contributions must be in English.

Submission of manuscripts

Manuscripts should be submitted online via our manuscript submission and tracking site, http://www.editorialmanager.com/psm/. Full instructions for electronic submission are available directly from this site. To facilitate rapid reviewing, communications for peer review will be electronic and authors will need to supply a current e-mail address when registering to use the system.

Papers for publication from Europe, (except those on genetic topics, irrespective of country), and all papers on imaging topics, should submitted to the UK Office.

Papers from the Americas, Asia, Africa, Australasia and the Middle East, (except those dealing with imaging topics), and all papers dealing with genetic topics, irrespective of country, should be sent to US Office.

Generally papers should not have text more than 4500 words in length (excluding abstract, tables/figures and references) and should not have more than a combined total of 5 tables and/or figures. Papers shorter than these limits are encouraged. For papers of unusual importance the editors may waive these requirements. Articles require a structured abstract of no more than 250 words including the headings: Background; Methods; Results; Conclusions. The name of an author to whom correspondence should be sent must be indicated and a full postal address given in the footnote. Any acknowledgements should be placed at the end of the text (before the References section).

Declaration of Interest: A statement must be provided in the acknowledgements listing all financial support received for the work and, for all authors, any financial involvement (including employment, fees, share ownership) or affiliation with any organisation whose financial interests may be affected by material in the manuscript, or which might potentially bias it. This applies to all papers including editorials and letters to the editor.

Contributors should also note the following:
1. S.I. units should be used throughout in text, figures and tables.
2. Authors should spell out in full any abbreviations used in their manuscripts.
3. Foreign quotations and phrases should be followed by a translation.
4. If necessary, guidelines for statistical presentation may be found in:

Altman DG., Gore SM, Gardner, MJ. Pocock SJ. (1983). Statistical guidelines for contributors to medical journals. British Medical Journal **286**, 1489-1493.

References

(1) The Harvard (author-date) system should be used in the text and a complete list of References cited given at the end of the article. In a text citation of a work by more than two authors cite the first author's name followed by et al. (but the names of all of the authors should be given in the References section). Where several references are cited together they should be listed in rising date order.

(2) The References section should be in alphabetical order. Examples follow:

> **Brown GW** (1974). Meaning, measurement and stress of life events. In Stressful Life Events: Their Nature and Effects (ed. B. S. Dohrenwend and B. P. Dohrenwend), pp. 217-244. John Wiley: New York.
>
> **Brown J.** (1970). Psychiatric Research. Smith: Glasgow.
>
> **Brown J, Williams E, Wright H** (1970). Treatment of heroin addiction. Psychological Medicine **1**, 134-136.
>
> Note: authors' names should be in **bold** font; journal titles should always be given in full.

(3) References to material published online should follow a similar style, with the URL included at the end of the reference, with the accession date, if known. Authors are requested to print out and keep a copy of any online-only information, in case the URL changes or is no longer maintained. Examples follow:

> **Acute Health Care, Rehabilitation and Disability Prevention Research** - National Center for Injury Prevention and Control. (http://www.cdc.gov/ncipc/profiles/acutecare/default.htm). Accessed 7 June 2004.
>
> **British Psychological Society Research Digest, Issue 12**.
> (http://lists.bps.org.uk/read/messages?id=1423). Accessed 17 February 2004.

Figures and tables

Only essential figures and tables should be included and should be provided in black and white except in exceptional circumstances, eg PET scan images etc (Please note that costs for unnecessary colour figure reproduction will be passed along to the author). Further tables, figures, photographs and appendices, may be included with the online version on the journal website.

To ensure that your figures are reproduced to the highest possible standards and your article is published as quickly and efficiently as possible, Cambridge Journals recommends the following formats and resolutions for supplying electronic figures. Please note that submitting low quality figures may result in a delay in publishing your valuable research

Please ensure that your figures are saved at final publication size (please see the latest issue of the journal for column widths) and are in our recommended file formats. Following these guidelines will result in high quality images being reproduced in both the print and the online versions of the journal.

Line artwork

Format: tif or eps
Colour mode: black and white (also known as 1-bit)
Size: please size to final publication size
Resolution: 1200 dpi

Combination artwork (line/tone)

Format: tif or eps
Colour mode: grayscale (also known as 8-bit)
Size: please size to final publication size
Resolution: 800 dpi

Black and white halftone artwork

Format: tif
Colour mode: grayscale (also known as 8-bit)
Size: please size to final publication size
Resolution: 300 dpi

Colour halftone artwork

Format: tif Colour mode: CMYK colour Size: please size to final publication size Resolution: 300 dpi

If you require any further guidance on creating suitable electronic figures, please visit http://dx.sheridan.com/guidelines/digital_art.html. Here you will find extensive guidelines on preparing electronic figures and also have access to an online preflighting tool where you can check if your figures are suitable for reproduction.

All graphs and diagrams should be referred to as figures and should be numbered consecutively in Arabic numerals. Captions for figures should be typed double-spaced on separate sheets. Tables should be numbered consecutively in the text in Arabic numerals and each typed on a separate sheet after the References section. Titles should be typed above the table.

Proofs and offprints

Page proofs will be sent to the author designated to receive correspondence. Corrections other than to printer's errors may be charged to the author. Authors will automatically receive a PDF of their article as soon as the issue in which it appears is published.

(Revised 23/01/11)

Appendix E

This has been removed from the electronic copy.

Appendix F

1. Study Information and Consent Page

Please take a moment to read the information below before clicking on the link below to consent to take part in the study.

• What is the purpose of this study?
To investigate how trainee clinical psychologists draw on different models to understand familiar diagnostic categories of mental disorder.
• Why have I been asked to participate?
Because you are a trainee clinical psychologist on a British training programme
• Do I have to participate?
It is completely up to you. You can click "yes" below to consent to taking part. Even after consenting, you are free to withdraw partway through, without giving a reason. Deciding to withdraw or not to take part will not affect you in any way. Any responses you have already provided will be automatically deleted as soon as you leave the website. Once you have completed the online questionnaire, read the debrief information, and chosen to submit your responses, your data will be anonymised and you will no longer be able to withdraw your responses. At this point, you can choose to enter the prize draw.
• What does taking part involve?
The questionnaire that follows can take no more than 15 minutes to complete. There are no right or wrong answers, so it is best just to go with your first response.
• Will my data be kept confidential?
Yes. Data gathered via the online questionnaire will be anonymised and kept on a secure website in the first instance. It will then be downloaded and password protected.
• How will the results be disseminated?
The results of this study should be written up by July 2012. I hope that results will be published.
• Are there any risks?
The questionnaire has been used in a previous published study and participants did not report any distress.
• How is the study funded?
Funding for this study is provided by Canterbury Christ Church University and myself.
• Does the study have ethical approval?
Yes. The Faculty Research Ethics Committee (FREC) of Canterbury Christ Church University has granted ethical approval.

Further information
My contact details:
Rebecca Read (rjr17@canterbury.ac.uk)
My Supervisors:
Dr Daniel Salter (daniel.salter@canterbury.ac.uk)
Dr Matthew Broome (M.R.Broome@warwick.ac.uk)

Please clink on the link below to confirm that you have read the above information, and that you consent to participate in this study. Then click "next" to complete the brief online survey.

1. I have read the information about the study and I consent to take part in this research

◯ Yes

Appendix F

The rest of the questionnaire has been removed from the electronic copy.

Appendix G

Eight Factor Solution

Pattern Matrix*

Aggregated attitude item (Model, diagnostic category)	Component 1	2	3	4	5	6	7	8
Social constructionist, GAD	**0.98**	-0.02	0.02	0.01	-0.01	0.00	-0.01	0.07
Social constructionist, MDD	**0.98**	-0.03	0.02	0.00	0.01	-0.02	0.01	0.05
Social constructionist, APD	**0.93**	0.04	-0.03	0.00	0.03	0.01	0.01	-0.06
Social constructionist, schizophrenia	**0.90**	0.02	0.01	-0.01	0.00	0.02	-0.03	-0.10
Behavioural, MDD	-0.04	**0.95**	0.01	-0.02	0.01	0.02	-0.01	0.02
Behavioural, schizophrenia	0.01	**0.93**	0.04	-0.01	0.04	-0.02	0.04	-0.04
Behavioural, APD	0.00	**0.90**	0.02	0.04	-0.08	0.01	-0.04	0.04
Behavioural, GAD	0.03	**0.87**	-0.06	-0.02	0.02	-0.05	-0.01	0.03
Spiritual, MDD	-0.03	-0.02	**0.99**	0.01	0.01	-0.02	-0.02	0.02
Spiritual, GAD	0.02	-0.04	**0.98**	-0.01	0.01	0.00	-0.01	0.04
Spiritual, schizophrenia	-0.02	0.02	**0.97**	-0.01	0.02	0.00	-0.01	-0.03
Spiritual, APD	0.05	0.06	**0.95**	-0.01	-0.04	0.03	0.01	-0.03
Psychodynamic, GAD	-0.02	-0.03	-0.02	**-0.97**	0.05	-0.01	0.01	0.05
Psychodynamic, MDD	-0.04	0.00	0.01	**-0.97**	0.00	0.01	0.00	-0.01
Psychodynamic, APD	-0.01	0.05	-0.03	**-0.93**	-0.03	0.01	-0.03	-0.04
Psychodynamic, schizophrenia	0.07	-0.01	0.05	**-0.93**	-0.03	-0.01	0.01	-0.01
Nihilist, MDD	0.01	0.01	0.01	0.02	**0.98**	0.00	-0.01	0.03
Nihilist, GAD	0.04	-0.02	0.01	0.01	**0.96**	0.00	-0.02	0.05
Nihilist, schizophrenia	-0.04	0.03	0.00	-0.01	**0.93**	0.01	-0.03	-0.11
Nihilist, APD	0.04	-0.03	-0.01	-0.01	**0.93**	0.00	0.01	-0.01
Cognitive, schizophrenia	-0.01	-0.05	0.05	0.03	0.03	**-0.93**	-0.05	-0.02
Cognitive, MDD	-0.04	0.05	-0.07	0.00	-0.06	**-0.88**	0.02	0.01
Cognitive, APD	0.04	0.02	0.03	-0.06	0.11	**-0.87**	0.02	0.04
Cognitive, GAD	-0.01	0.04	-0.05	0.02	-0.11	**-0.84**	0.01	0.00
Social realist, MDD	0.01	0.02	-0.03	0.00	0.00	0.07	**-0.98**	0.06
Social realist, GAD	0.00	0.02	-0.01	-0.03	0.07	0.05	**-0.92**	0.06
Social realist, schizophrenia	-0.02	-0.03	0.05	0.01	0.05	-0.05	**-0.87**	-0.05
Social realist, APD	0.05	0.00	0.02	-0.01	-0.09	-0.08	**-0.85**	-0.09
Biological, MDD	0.02	-0.05	-0.02	-0.02	-0.02	-0.01	-0.01	**0.96**
Biological, GAD	-0.05	0.01	0.03	0.00	0.03	-0.02	0.01	**0.91**
Biological, APD	-0.03	0.05	0.07	0.00	0.01	0.04	0.04	**0.87**
Biological, schizophrenia	0.01	0.04	-0.09	0.02	-0.09	-0.03	-0.02	**0.84**

*Obliquely rotated (direct oblimin). Loadings > .4 in bold

Structure Matrix*

Aggregated attitude item (Model, diagnostic category)	Component 1	2	3	4	5	6	7	8
Social constructionist, GAD	**0.98**	-0.08	0.36	-0.12	0.45	0.08	-0.41	-0.33
Social constructionist, MDD	**0.97**	-0.07	0.35	-0.12	0.43	0.08	-0.41	-0.31
Social constructionist, APD	**0.95**	-0.09	0.35	-0.13	0.45	0.10	-0.44	-0.43
Social constructionist, schizophrenia	**0.94**	-0.06	0.30	-0.11	0.45	0.08	-0.40	-0.39
Behavioural, MDD	-0.11	**0.95**	0.04	-0.23	-0.16	-0.38	-0.12	0.40
Behavioural, schizophrenia	-0.09	**0.92**	0.02	-0.18	-0.22	-0.38	-0.12	0.41
Behavioural, APD	-0.04	**0.91**	0.08	-0.22	-0.10	-0.39	-0.12	0.32
Behavioural, GAD	-0.05	**0.90**	-0.01	-0.22	-0.14	-0.42	-0.13	0.36
Spiritual, MDD	0.36	0.01	**0.98**	-0.24	0.33	0.13	-0.31	-0.08
Spiritual, GAD	0.32	0.03	**0.98**	-0.23	0.31	0.11	-0.30	-0.08
Spiritual, schizophrenia	0.34	0.04	**0.98**	-0.25	0.34	0.12	-0.32	-0.12
Spiritual, APD	0.37	0.07	**0.96**	-0.24	0.30	0.13	-0.30	-0.10
Psychodynamic, GAD	0.09	0.22	0.24	**-0.97**	0.06	-0.11	-0.26	-0.02
Psychodynamic, MDD	0.10	0.21	0.22	**-0.96**	0.08	-0.11	-0.24	0.02
Psychodynamic, APD	0.18	0.20	0.28	**-0.94**	0.08	-0.10	-0.28	-0.05
Psychodynamic, schizophrenia	0.10	0.25	0.19	**-0.94**	0.03	-0.13	-0.27	-0.03
Nihilist, MDD	0.44	-0.14	0.32	-0.05	**0.98**	0.13	-0.30	-0.29
Nihilist, GAD	0.46	-0.16	0.33	-0.06	**0.97**	0.15	-0.32	-0.29
Nihilist, schizophrenia	0.44	-0.16	0.32	-0.09	**0.96**	0.13	-0.33	-0.40
Nihilist, APD	0.47	-0.19	0.31	-0.07	**0.95**	0.15	-0.29	-0.34
Cognitive, schizophrenia	-0.18	0.43	-0.21	-0.08	-0.24	**-0.92**	-0.03	0.19
Cognitive, MDD	-0.03	0.33	-0.05	-0.09	-0.07	**-0.90**	-0.15	0.07
Cognitive, APD	-0.16	0.40	-0.20	-0.06	-0.26	**-0.87**	-0.02	0.17
Cognitive, GAD	0.01	0.40	-0.03	-0.18	-0.01	**-0.86**	-0.14	0.12
Social realist, MDD	0.40	0.14	0.28	-0.26	0.29	-0.05	**-0.96**	-0.15
Social realist, GAD	0.40	0.13	0.30	-0.28	0.33	-0.05	**-0.93**	-0.16
Social realist, schizophrenia	0.40	0.07	0.32	-0.24	0.34	-0.11	**-0.90**	-0.26
Social realist, APD	0.40	0.12	0.27	-0.26	0.22	-0.17	**-0.88**	-0.25
Biological, MDD	-0.34	0.35	-0.11	0.01	-0.31	-0.13	0.19	**0.94**
Biological, GAD	-0.37	0.38	-0.07	0.01	-0.29	-0.15	0.20	**0.93**
Biological, APD	-0.34	0.38	-0.03	0.01	-0.28	-0.09	0.21	**0.90**
Biological, schizophrenia	-0.38	0.40	-0.20	0.05	-0.39	-0.18	0.21	**0.89**

*Obliquely rotated (direct oblimin). Loadings > .4 in bold