Public Beliefs and Attitudes towards Bipolar Disorder and the Effect of Renaming Conditions on Stigma

Nell Ellison

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Thesis declaration form

I confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signature:

Name: Nell Ellison

Date: 21/06/2013

Overview

This thesis is presented in three parts. The overall aim was to explore public beliefs about and attitudes towards bipolar disorder. Bipolar disorder is one of the few disorders to have undergone a name change in the last 30 years, and there are current proposals for schizophrenia to also be renamed to help reduce stigma. The second aim was therefore to explore the effect of renaming disorders on stigma.

Part one presents a systematic review of literature pertaining to public beliefs and attitudes towards bipolar disorder, and internalised stigma in people with this diagnosis, their families and carers. In comparison to research on other mental health problems, there is a dearth of literature exploring stigma in bipolar disorder. There were inconsistent findings and the literature was largely inconclusive, although a moderate to high degree of internalised stigma was identified.

Part two is an empirical paper which investigates public beliefs and attitudes toward bipolar disorder and how they compare to schizophrenia, and the effect of presenting different diagnostic labels on stigma. Causal beliefs, beliefs about prognosis, emotional reactions, stereotypes and desire for social distance were explored in relation to bipolar disorder, and in response to different diagnostic labels. Findings are discussed in relation to the evidence base, clinical and scientific implications, and directions for future research.

Part three is a critical appraisal of the research undertaken in this thesis and of the measurement of stigma more generally. It explores conceptual and methodological issues, and concludes with a discussion of the role of clinical psychology in stigma reduction.

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Part 1: Literature Review

Bipolar Disorder and Stigma: A Systematic Review of the Literature

Abstract

Aim: The degree to which bipolar disorder is stigmatised by the public and the extent of internalised stigma for people with this disorder, their families, and carers is a relatively neglected area of research. This review aimed to determine what is currently known about stigma and bipolar disorder.

Method: A systematic search of the literature was conducted to identify publications which investigated public attitudes and/or beliefs about bipolar disorder or explored internalised stigma in people with bipolar disorder, their families and carers. The electronic databases PsychINFO, Medline, Embase, and Web of Science were searched for articles published between 1992 and 2012.

Results: Twenty five articles met the review's inclusion criteria. There were inconsistent findings regarding public stigma, although there was some evidence that bipolar disorder is viewed more positively than schizophrenia and less positively than depression. There is a moderate to high degree of internalised stigma in bipolar disorder, although the literature raises questions regarding its ubiquity in this population.

Conclusions: This review is the first systematic synthesis of research relating to stigma and bipolar disorder. In comparison to research on other mental health problems, there is a dearth of literature exploring stigma in bipolar disorder. The literature is largely inconclusive. Future research is needed to replicate tentative findings and address methodological limitations before the field can move on to the development of anti-stigma interventions.

1. Introduction

The adverse consequences of prejudice and discrimination towards people with mental illness are well documented. Internalised stigma is associated with low self-esteem, poor treatment adherence, and increased symptom severity (Livingston & Boyd, 2010). Research has shown that prejudice towards mental illness leads to discrimination in housing, jobs, and allocation of resources to mental health services (e.g. Corrigan, Watson, Warpinski, & Gracia, 2004; Sayce, 1998).

The term 'people with mental illness' will be used throughout this thesis, as this is how people with mental health problems are most commonly referred to in the stigma literature.

1.1. Types of Stigma

Stigma has been described as consisting of two elements: public stigma and internalised stigma (Corrigan & Watson, 2002a). Public stigma refers to the attitudes of the general population, including the attitudes of professional groups, towards mental illness. Internalised stigma refers to the negative self-perceptions that people with mental illness hold. Stereotypes, prejudice, and discrimination have been described as the three core components that underpin both public and internalised stigma (Corrigan & Watson, 2002a). Others have also described a third form of stigma termed 'structural discrimination' (Corrigan, Markowitz, & Watson, 2004), which refers to the inequality inherent in social structures, legal regulations, and political decisions. This review will focus on the first two aspects of stigma.

1.1.1. Public Stigma

Stereotypes refer to negative beliefs about a group (for example, that people with mental illness are dangerous). This has also been described as problems of knowledge or 'mental health literacy' (Jorm et al., 1997; Thornicroft, Rose, Kassam,

& Sartorius, 2007), which includes facets such as recognition of disorders, and knowledge of causes, treatments, and prognosis (Furnham & Anthony, 2010). Prejudice refers to agreement with such negative belief and discrimination describes the behavioural response to prejudice (for example, withholding help) (Corrigan & Watson, 2002a). Emotional reactions, such as fear, pity and anger, can accompany both prejudice and discrimination (Thornicroft, 2006).

1.1.2. Internalised Stigma

With respect to internalised stigma, which is also referred to as 'self-stigma', stereotypes refer to negative beliefs about the self, prejudice denotes agreement with such beliefs, and discrimination describes the behavioural response (for example, not pursuing a desired job). Emotional reactions, such as low self-esteem and low self-efficacy, often accompany prejudice (Corrigan & Watson, 2002a). Internalised stigma can also include the internalisation of negative attitudes by the carers and family members of those diagnosed, which is known as affiliative stigma (Mak & Cheung, 2008).

Corrigan and Watson (2002b) outlined a situational model of self-stigma which attempts to explain the apparent paradox with regard to the consequences of internalising negative attitudes: specifically, while some people experience a deleterious effect on their self-esteem and self-efficacy, others are energised and experience righteous anger. They also described a third group who are seemingly entirely unaffected by stigma.

1.2. Bipolar Disorder

Bipolar disorder is characterised by fluctuating periods of mania and depression, with severe episodes also containing delusions and hallucinations (Goodwin & Jamison, 2007). The Diagnostic and Statistical Manual of Mental

Disorders (DSM-IV; American Psychiatric Association, 1994) diagnostic criteria for bipolar disorder are outlined in Appendix A. Reviews focusing on public stigma have consistently shown that public attitudes towards and beliefs about mental illness are not uniform across disorders, with research primarily focusing on comparing schizophrenia and depression (e.g. Angermeyer & Dietrich, 2006). Not only does bipolar disorder have a chronic course and similar prevalence to schizophrenia (1-1.5% of the general population) (Cannon & Jones, 1996; Weissman et al., 1996), but media coverage of bipolar disorder has increased dramatically over the last decade. There have been TV programmes such as 'The Secret Life of the Manic Depressive' and 'True Life: I'm Bipolar', and a number of celebrity disclosures, such as Stephen Fry and Catherine Zeta Jones. Despite this, to date there have been no reviews on public attitudes and beliefs about bipolar disorder or on internalised stigma experienced by people with this diagnosis. Indeed, a review on stigma and mood disorders focused almost exclusively on depression, only including one study on self-stigma and bipolar disorder (Kelly & Jorm, 2007). Further, two reviews of public attitudes towards mental illness commented on the scarcity of research into public attitudes towards bipolar disorder (Angermeyer & Dietrich, 2006; Thornicroft, 2006).

While there have not been any reviews on internalised stigma in bipolar disorder, a review on social functioning in bipolar disorder identified stigma as an important problem for people with this diagnosis (Elgie & Morselli, 2007). In contrast, Chan and Sireling (2010) commented on a rise in the number of people with 'self-diagnosed' bipolar disorder in their clinical practice coinciding with more positive media coverage of bipolar disorder, and suggest that it may be less stigmatised and more acceptable to the public than other mental health problems.

With no reviews in this area, however, it remains unclear to what extent people with bipolar disorder are stigmatised by the public or the degree to which any negative attitudes are internalised by people with this diagnosis, their families, or carers. A better understanding of this is crucial to guide anti-stigma interventions and public education campaigns.

1.3. Objectives

This review evaluated existing evidence with regard to stigma and bipolar disorder. It focused on the two primary forms of stigma: public stigma, which includes the attitudes of professionals, and internalised stigma. Specifically, the following questions were addressed:

1) What is known about public and professional attitudes towards and beliefs about bipolar disorder, and what factors are associated with these?
2) What is the extent of internalised stigma for people with this diagnosis, their carers and families? What predicts this and what are the consequences of it?

2. Method

2.1. Search Strategy

A systematic search of the literature was conducted to identify publications which investigated public attitudes and/or beliefs about bipolar disorder or publications which explored internalised stigma in people with bipolar disorder, their families and carers. The electronic databases PsychINFO, Medline, Embase, and Web of Science were searched. Search terms focused on three areas: bipolar disorder, public stigma, and internalised stigma (see Table 1).

Table 1

Literature Review Search Terms

Bipolar disorder	Public stigma	Internalised stigma
Bipolar	Stigma	Self-stigma
Manic depress*	Public stigma	Internali*ed stigma
Mania	Public attitude*	
Manic	Professional attitude*	
	Public opinion*	
	Public belief*	
	Lay belief*	
	Lay theor*	
	Public discrimination	
	Mental illness stigma	
	Attitudes towards mental illness	
	Prejudice	
	Social attribution	

Note. *****truncated terms to allow for multiple endings of words.

Keyword searches were conducted in each database. Limits were set on the databases to only include only journal articles published in English. To ensure the literature was current, limits were also set to include only studies published in the last 20 years (between January 1992 and August 2012). Terms with two or more words were searched to ensure the words appeared adjacently.

Two separate searches were conducted: one that specified that articles include at least one term from the first domain and at least one term from the second domain, and one that specified that articles include at least one term from the first domain and one term from the third domain.

To determine which articles met inclusion criteria, titles were read initially. If it was still unclear then abstracts were read, and if any uncertainty remained the

whole article was read. Reference lists of retrieved articles were searched using the inclusion and exclusion criteria set out below.

2.2. Inclusion and Exclusion Criteria

Inclusion criteria:

- Studies which focused on either bipolar disorder or mania and either public stigma or internalised stigma.
- Studies in which the main focus was not on bipolar disorder or mania, but which included people with these diagnoses in their sample or explored attitudes towards them as one of many disorders, were also included if they reported separate analyses on these disorders.
- To ensure quality control, only studies which were published in peer reviewed journals were included.
- Studies had to be empirically based, using either qualitative or quantitative methodologies.

Exclusion criteria:

- Studies which focused on stigma towards mental illness in general, and not specifically on bipolar disorder or mania.
- Studies which did not contain results reporting specifically on bipolar disorder or mania.
- Review articles, conference presentations, or discussion papers.
- Studies in which public or internalised stigma was not a primary focus of the research.

2.3. Quality Assessment

The methodological quality of all quantitative studies included in the review were assessed by means of a critical appraisal checklist designed for the evaluation

of cohort, case-controlled and cross sectional studies (Health Evidence Bulletin, 2004) (Appendix B). A systematic review of quality assessment tools for observational studies (Sanderson, Tatt, & Higgins, 2007) only identified this checklist and one other (DuRant, 1994) that contained questions explicitly for the appraisal of cross-sectional studies. The Health Evidence Bulletin (HEB; 2004) checklist was chosen as, unlike Durant (1994), it described its development (the majority of items were adapted from the Critical Appraisal Skills Programme; CASP), and was considered more pragmatic and user friendly. The HEB (2004) checklist also covered all criteria deemed important to assess in cross-sectional studies (the predominant study design in this review), as outlined in a recent review on the subject (Young & Solomon, 2009). Two minor modifications were made to the HEB (2004) for use in this review: 1) the last section on the relevance of the results locally was removed as this is not relevant to the type of research evaluated in this review; 2) an additional summary judgement that is used in the National Institute for Health and Clinical Excellence (NICE; 2006) guidelines was added to aid assessment of the overall quality of the study, taking into account the relative influence of the different items on the checklist. Two additional items relevant for randomised designs (NICE, 2006) were included in the evaluation of one cross-sectional study which adopted a randomised design. The use of more widely used checklists for cohort studies was considered (e.g. CASP, 2003; NICE, 2006) but these do not contain any items specifically for cross-sectional studies, and many of the items were therefore not relevant for the type of study being evaluated in this review. Finally, the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE; von Elm et al., 2007) statement is a comprehensive checklist for assessing the quality of reporting of observational studies, and includes

specific items on cross-sectional studies. It was not chosen, though, as the authors explicitly state that the STROBE is not a tool for assessing the quality of research.

As only two qualitative studies were included in this review, it was deemed unnecessary to formally assess these with the use of a quality checklist.

3. Results

The database searches combining at least one term from the first domain with at least one term from the second domain identified a total of 546 articles. Of these, 25 publications, arising from 22 studies, met the inclusion criteria. The database searches combining one term from the first domain with one term from the third domain identified 24 articles. These 24 had already been identified by the first search, so it did not produce any additional articles to include. Searching the reference lists of retrieved articles did not identify any further studies. A flowchart of study selection is presented in Figure 1.

Table 2 outlines studies which focused on public and professional beliefs about and attitudes towards bipolar disorder. There were 11 publications in total, all of which collected quantitative data. Eight publications focused on public attitudes and three on professional attitudes. They were conducted in nine different countries, with two in the UK, one in Germany, two in the USA, one in multiple countries (UK, Hong Kong and Malaysia), and one each in Canada, Japan, Singapore, and Pakistan.

Table 3 outlines studies which focused on internalised or affiliative stigma. There were 14 publications in total, 12 of which were quantitative and two qualitative. They were conducted in six different countries, with four in the USA, two in Canada, two in Australia, two in Turkey, and one each in the UK and South America.

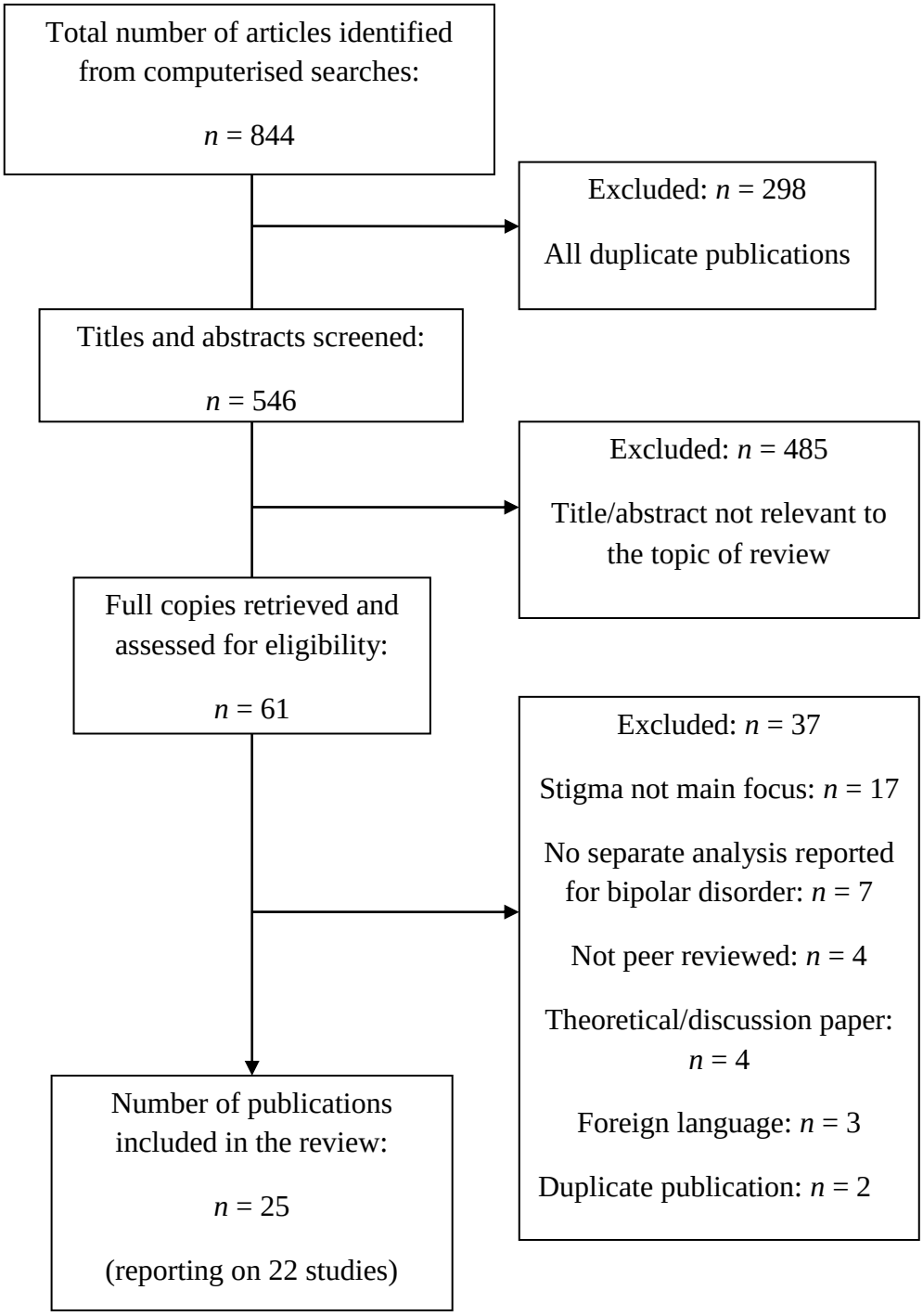

Figure 1. Flowchart of study selection.

Table 2

Studies Investigating Public and Professional Beliefs about and Attitudes towards Bipolar Disorder

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Day et al. (2007)	USA	• *N*=364 • College students and general population • Convenience sample	• Cross-sectional design • Questionnaire designed for study (Day's Mental Illness Stigma scale)	• BAD • SZ • DEP • General mental illness	*Aspect of stigma studied* • Interpersonal anxiety • Relationship disruption • Poor hygiene • Visibility • Treatability • Professional efficacy • Recovery *Associated variables* • Familiarity	*Stigma* • BAD and SZ viewed most similarly. • BAD rated as significantly less treatable than DEP and less likely to recover than both DEP and general mental illness. • BAD rated as significantly less visible and associated with better personal hygiene than DEP. *Associated variables* • Familiarity was associated with less anxiety, less relationship disruption, and higher treatability.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Furnham (2009)	UK	• *N*=185 • General population • Quota sampling	• Cross-sectional design • Questionnaire designed for study	• BAD • SZ • DEP • OCD	*Aspect of stigma studied* • Causal beliefs • Beliefs about treatment • Prognosis *Associated variables* • Demographics • Familiarity	*Stigma* • SZ seen to have a biological basis; BAD, depression and OCD were perceived to have family, work and other stress-related causes. • Drug treatments viewed as more effective for SZ and BAD than other disorders. • DEP thought to have good chance of cure. For neither SZ nor BAD was an effective cure thought likely. *Associated variables* • Familiarity associated with less optimism about the treatment of all disorders.
Furnham (2010)	UK	• *N*=173 • General population • Convenience sample	• Cross-sectional design • Questionnaire designed for study • Vignettes	• BAD • SZ* • DEP* *These disorders were only included in the recognition question	*Aspect of stigma studied* • Recognitionn • Causal beliefs • Beliefs about treatment *Associated variables* • Demographics • Familiarity	*Stigma* • BAD recognised less than DEP but to a similar extent as SZ. • Causal beliefs of BAD adhere to academic theories; there was no bias towards either psychosocial or biological theories. • Medication endorsed as a treatment to a greater extent than psychotherapy. *Associated variables* • No association between familiarity and recognition.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Imran & Haider (2007)	Pakistan	• *N*=434 • Professionals and medical students • Convenience sample	• Cross-sectional • Questionnaire adapted from the Royal College of Psychiatrists' questionnaire used for an Office for National Statistics Survey (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000)	• Mania • SZ • DEP • Anxiety/ Panic attacks • Alcohol misuse • Drug misuse • Dementia	*Aspect of stigma studied* • Dangerousness • Unpredictable • Being hard to talk to • Blame • Ability to pull oneself together • Prognosis with treatment *Associated variables* • None	• Mania viewed as more dangerous than anxiety/panic attacks, DEP and dementia, and less than alcohol and drug addiction and SZ. • Mania viewed as less unpredictable than SZ, but similarly to alcohol and drug addiction. • Low perception of blame for mania. • Mania thought to have similar prognosis to DEP.
Loo et al. (2012)	UK Hong Kong Malaysia	• *N*=440 • General population	• Cross-sectional • Questionnaire designed for study • Vignettes	• BAD • SZ • OCD • Social phobia • DEP • Stress • ADHD • Child DEP • Child 'daily troubles'	*Aspect of stigma studied* • Recognition • Beliefs about treatment *Associated variables* • None	• BAD was second least recognised disorder for all countries. • All three groups were least confident about their diagnosis of BAD. • BAD often misdiagnosed as drug or other additions, gambling, ADHD, 'overconfidence', or being a 'workaholic'. • British and Hong Kong participants were significantly more likely to recommend professional help. • For all countries, social support was the least endorsed treatment for BAD.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Parker et al. (2000)	Singapore	• *N*=405 • Professionals (mental health staff) • Convenience sample	• Cross-sectional • Questionnaire developed for study (adapted from Jorm, Korten, Jacomb, Rogers, and Pollitt's (1997) Mental Health Literacy survey) • Vignettes	• Mania • DEP • SZ	*Aspect of stigma studied* • Recognition • Beliefs about treatment • Beliefs about discrimination • Prognosis *Associated variables* • None	• High rates of recognition for mania (74%-100%). • Mania treated most similarly to SZ with regard to treatments and prognosis. • Mania thought to be more likely to be discriminated against than DEP but less likely than SZ. • Psychiatrists rated mania as more likely to be discriminated against than other mental health staff (91% vs. 70%).
Smith et al. (1996)	USA	• *N*=113 • People with BAD and professionals • Convenience sample	• Cross-sectional • Questionnaire developed for study	• BAD	*Aspect of stigma studied* • Perception of how stigmatised BAD is • Decision to terminate pregnancy if likely BAD *Associated variables* • None	• Members of support group rated BAD as most stigmatising (68% rated it as highly stigmatising, compared to 62% of medical students, and 47% of psychiatry residents). • Psychiatry residents were most likely to terminate a pregnancy, followed by medical students, then people with BAD.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Stip et al. (2006)	Canada	• *N*=1001 • General population • Stratified sampling	• Cross-sectional • Structured telephone Interviews • Questionnaire designed for study (by user groups)	• BAD • SZ	*Aspect of stigma studied* • Stereotypes (intelligence and dangerous) • Beliefs about treatment • Causal beliefs • Emotional reactions • Behavioural reactions *Associated variables* • Demographics	*Stigma* • 4% thought people with BAD were of below average intelligence compared to 6 % for SZ. • 28% thought people with BAD were 'violent or dangerous' compared to 54% for SZ. • Beliefs about treatments for BAD were largely consistent with scientific theories (lithium, mood stabilisers, medication, and psychotherapy). • Biomedical causes were most highly endorsed for BAD. • Emotional reactions were more positive towards BAD than SZ. • Behavioural reactions were slightly more positive towards BAD than SZ. *Associated variables* • Women were more accurate in their beliefs about treatment. • Older participants more likely to think people with BAD were dangerous. • Level of education was positively associated with biological causal beliefs.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Sugiura et al. (2000)	Japan	• *N*=79 • Students • Convenience sample	• Cross-sectional design • Questionnaire designed for study • Vignettes	• Nine disorders inc. Manic Episode	*Aspect of stigma studied* • Recognition • Capacity to make a moral judgment • Dangerous behaviour • Ability to adjust socially *Associated variables* • None	• Manic episode was third least recognised. • Manic episode considered second least likely to be able to make moral judgment. • Manic episode viewed as second most dangerous disorder. • Manic episode considered third most likely to adjust socially.
Wolkenstein & Meyer (2008)	Germany	• *N*=380 • Students • Convenience sample	• Cross-sectional randomised experimental design • Questionnaires - Emotional reaction scale designed for study - Personal Attributes Scale (Angermeyer & Matschinger, 2003) - Modified version of Bogardus Social Distance scale (Link, Cullen, Frank, & Wozniak, 1987) • Vignettes	• Mania • DEP	*Aspect of stigma studied* • Emotional reactions • Stereotypes / cognitive reactions • Social distance / behavioural reactions *Associated variables* • None	• More negative emotional reactions, stereotypes, and a greater desire for social distance towards an individual with a current manic episode compared to an individual with a current depressive episode.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Wolkenstein & Meyer (2009)	Germany	• *N*=188 • Students • Same sample as Wolkenstein & Meyer (2008)	• Cross-sectional • Questionnaires - Stigma measures same as Wolkenstein & Meyer (2008) - General Behaviour Inventory (Hautzinger, Meyer, & Pheasant, 2002) - Magical Ideation Scale (Meyer & Hautzinger, 1999, 2000) - Eynsenck Personality inventory (Eysenck & Eysenck, 1964) which includes an assessment of social desirability • Vignettes	• Mania • DEP	*Aspect of stigma studied* • Emotional reactions • Stereotypes / cognitive reactions • Social distance / behavioural reactions *Associated variables* • Familiarity • Personal experience of mood swings and unusual beliefs	• 'Familiarity' positively influenced attitudes towards DEP, but negatively influenced attitudes towards mania. • Magical ideation negatively associated with willingness to accept someone with mania as a neighbour (behavioural item). • No association between attitudes and personal experience of mood swings or social desirability.

Note. BAD = Bipolar Affective Disorder; SZ = Schizophrenia; DEP = Depression; OCD = Obsessive Compulsive Disorder.

Table 3

Studies Investigating Internalised Stigma in People with Bipolar Disorder, their Carers and Families

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Aydemir & Akkaya (2011)	Turkey	• *N*=150 • People with BAD (in remission)	• Cross-sectional • Questionnaire - Sense of Stigmatisation subscale of Bipolar Disorder Functioning Questionnaire (BDFQ-Stigma; Aydemir et al., 2007) - Liebowitz Social Anxiety Scale (Liebowitz, 1987) - Rosenberg Self-Esteem Scale - Hamilton Rating Scale for Depression (Turkish version) (HRSD; Aydemir, Deveci, & Icelli, 2006) - Young Mania Rating Scale (Turkish version) (YMRS; Karadag, Oral, Yalcin, & Erten, 2002)	• BAD	• Self-stigma • Self-esteem • Social anxiety • Clinical variables • Socio-demographic variables	• High degree of internalised stigma. • Internalised stigma negatively associated with self-esteem and social anxiety. • Internalised stigma not associated with clinical or socio-demographic variables.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Cerit et al. (2012)	Turkey	• *N*=88 • People with BAD (in remission)	• Cross-sectional • Questionnaires - Internalised Stigma of Mental Illness Scale (Turkish version) (ISMI; Ersoy & Varan, 2007) - Multidimensional Scale of Perceived Social Support (Turkish version) (Eker & Arkar, 1995) - Bipolar Disorder Functioning Questionnaire (Aydemir et al., 2007) - Beck Depression Inventory (Turkish version) (Hisli, 1989) - YMRS (Turkish version) (Karadag et al., 2002) - Schedule for Assessing the Three Components of Insight (Turkish version) (Aslan et al., 2001)	• BAD	• Internalised stigma • Psychosocial functioning • Depression severity • Mania severity • Insight • Clinical variables • Socio-demographic variables	• Moderate degree of internalised stigma. • Internalised stigma associated with psychosocial functioning and perceived social support. • Internalised stigma associated with depression severity and number of hospitalisations. • Internalised stigma associated with years in education.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Gonzalez et al. (2007)	USA	• *N*=500 • Carers of people with BAD	• Cross-sectional • Questionnaires/interviews - Discrimination-Devaluation Scale (DDS; Struening et al., 2001) - The Centre for Epidemiologic Studies Depression Scale (CESD; Radloff, 1977) - The Social Behaviour Assessment Schedule (Platt, Weyman, Hirsch, & Hewett, 1980) - Duke Social Support Index (DSSI; Koenig et al., 1993) - Patient assessments included: 1) Affective Disorder Evaluation (ADE; Sachs, 1990) 2) Calculating Days Well	• BAD	• Patient-focused stigma • Caregiver-focused stigma • Overall stigma • Depression • Caregiver burden • Social interactions • Clinical status of patient • Clinical characteristics of patient • Socio-demographics of caregiver • Relationship with patient (e.g. spouse, sibling)	• Moderate degree of internalised stigma, with higher patient-focused stigma than caregiver-focused stigma • Associations varied depending on the clinical status of the patients: 1) In the unwell group, greater stigma was associated with bipolar I (versus II) disorder, less social support for the caregiver, fewer caregiver social interactions, and being a caregiver of Hispanic descent. 2) In the well group, greater stigma was associated with being a caregiver who is the adult child of a parent with bipolar disorder, who has a college education, who has fewer social interactions, and who cares for a female bipolar patient.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Hayward et al. (2002)	UK	• *N*=186 • People with BAD	• Cross-sectional • Questionnaire - Self-Esteem and Stigma Questionnaire (SE/SQ) (developed and validated in this study) - The Social Adjustment Scale (SAS; Weissman & Bothwell, 1976) - The Internal States Scale (Bauer et al., 1991)	• BAD	• Self-stigma • Self-esteem • Social adjustment • Mood	• High degree of internalised stigma. • Internalised stigma negatively associated with self-esteem and social functioning. • Internalised stigma not associated with mood.
Lazowski et al. (2012)	Canada	• *N*=214 • People with BAD or DEP	• Cross-sectional • Questionnaire (administered as either a semi-structured interview or self-administered survey) - Inventory of Stigmatizing Experiences (ISE; Stuart, Milev, & Koller, 2005) (includes Stigma Experiences Scale and Stigma Impact Scale) - Clinical variables assessed using a questionnaire designed for study	• BAD • DEP	• Stigma experiences • Stigma impact • Diagnosis (BAD or DEP) • Clinical variables • Socio-demographic variables	• High degree of internalised stigma in BAD. • No difference between BAD and DEP on stigma experiences. • Participants with BAD reported significantly higher stigma impact than participants with DEP. • Internalised stigma not associated with clinical or socio-demographic variables.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Lee et al. (2011)	USA	• *N*=84 • Carers of people with BAD and people with BAD seeking family therapy	• Cross-sectional • Questionnaires - ISMI (Ritsher, Otilingam, & Grajales, 2003) - The Bipolar Knowledge scale (developed for study) - The Poor Alliance scale (developed for study) - CESD (Radloff, 1977) - Spielberger State Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970) - The Quality of Life Enjoyment and Satisfaction Questionnaire (Endicott, Nee, Harrison, & Blumenthal, 1993)	• BAD	• Internalised stigma • Knowledge of BAD • Therapeutic alliance • Depression • Anxiety • Quality of Life • Treatment adherence	• Treatment non-adherence associated with internalised stigma in patients but not in carers. • Internalised stigma associated with depression in patients but not in carers. • Caregiver anxiety associated with patients experiencing less stigma.
Meiser et al. (2005)	Australia	• *N*=22 • People with BAD and their families	• Qualitative • Interviews and focus groups • Questionnaires - Family Interview for Genetic Studies (National Institute of Mental Health, 1992) & Diagnostic Interview for Genetic Studies (Nurnberger et al., 1994) were used to obtain family history and illness characteristics	• BAD	• The impact of genetic causal attributions on the perceived stigma of bipolar disorder	• Most participants felt that a genetic explanation was likely to decrease the stigma associated with bipolar disorder, as it shifted the locus of control and responsibility away from the individual towards the role of heredity.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Meiser et al. (2007)	Australia	• *N*=200 • People with BAD, schizoaffective disorder-manic type, or major DEP, and their families	• Cross-sectional • Questionnaires - Perceived Devaluation-Discrimination Scale (PDD; Link et al., 1987) - Causal attributions of BAD assessed using questionnaire designed for study (based on the above qualitative study Meiser et al., 2005) - Zarit Burden Interview (Bédard et al., 2001) - Attitudes towards childbearing assessed using questionnaire designed for study - General Health Questionnaire 12 (Goldberg & Williams, 1988) - Internal State Scale (Bauer et al., 1991) - Family Interview for Genetic Studies (National Institute of Mental Health, 1992) & Diagnostic Interview for Genetic Studies (Nurnberger et al., 1994) were used to obtain family history and illness characteristics	• BAD • Schizoaffective disorder – manic type • Major DEP	• Internalised stigma • Causal attributions of bipolar disorder • Attitudes towards childbearing • Family burden • Psychological distress • Clinical characteristics of patient (current manic and depressive symptoms) • Socio-demographic characteristics of family members and patients	• Moderate degree of internalised stigma in patients and family members. • Internalised stigma associated with willingness to have children. • 35% participants reported being 'not at all willing to have children' or 'less willing to have children' as a result of having a strong family history of BAD. • Among family members only, endorsement of a genetic model was positively associated with internalised stigma.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Michalak et al. (2011)	Canada	• *N*=32 • People with BAD	• Qualitative • Focus groups or interviews using a standardised semi-structured interview	• BAD	• Participants' experiences and stories of internalised stigma	• Internalised stigma significantly affected participants' ability to self-manage bipolar disorder, but a proportion of the sample described progression from a state of stigma to one in which they no longer endorse and internalise stigma, but integrate the illness experience into a positive social identity.
Perlick et al. (2001)	USA	• *N*=264 • People with BAD or schizoaffective disorder, manic type	• Longitudinal • Questionnaire - Internalised stigma was measured with a scale that combined two questionnaires: 1) 8 items on coping mechanisms to avoid rejection (Link et al., 1989); 2) 12 items from Link's Beliefs About Devaluation–Discrimination Scale (Link et al., 1987) - SAS (Weissman & Bothwell, 1976) - Brief Psychiatric Rating Scale (Overall & Gorham, 1962) - Schedule for Affective Disorders and Schizophrenia (Endicott & Spitzer, 1978)	• BAD • Schizoaffective disorder, manic type	• Internalised stigma (coping mechanisms to avoid rejection and beliefs about devaluation) • Social adjustment • Clinical variables • Socio-demographic variables	• Internalised stigma predicted impaired social functioning in interactions with persons outside the family but not in interactions with family members (measured at 7 months), after symptom severity, baseline social adaptation, and socio-demographic characteristics controlled for.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Perlick et al. (2007)	USA	Same sample as Gonzalez et al. (2007)	• Quantitative • Questionnaires/interviews - Devaluation of Consumer Families Scale (Struening et al., 2001) - CESD (Radloff, 1977) - 11-item brief form of the DSSI (Koenig et al., 1993) - Avoidance coping was assessed using the sub-scale from Scazufca and Kuipers's (1999) measure - Patient assessments included: 1) ADE (Sachs, 1990) 2) The Clinical Monitoring Form (Sachs & Thase, 2003) 3) Global Assessment of Functioning (GAF; American Psychiatric Association (APA), 1994)	• BAD	• Caregiver-focused stigma and discrimination • Caregiver depression • Caregiver avoidant coping • Social support • Caregiver socio-demographic variables • Patient clinical characteristics	• Internalised stigma was positively associated with caregiver depressive symptoms, controlling for patient clinical status and socio-demographic factors. • The relationship between internalised stigma and depression is mediated by avoidant coping and reduced social support.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Perlick et al. (2008)	USA	Same sample as Gonzalez et al. (2007)	• Longitudinal • Questionnaires/interviews - Devaluation of Consumer Families Scale (Struening et al., 2001) - Social Behaviour Assessment Schedule (Platt et al., 1980) - The Mastery Scale (Pearlin, Lieberman, Menagham, & Mullan, 1981) - Ways of Coping Questionnaire (Folkman & Lazarus, 1988) - The 7-item subjective social support subscale from the DSSI (Koenig et al., 1993) - CESD (Radloff, 1977) - The General Health Scale (Ware & Sherbourne, 1992) - The Health Risk Behaviour Scale (Burton, Newsom, Schulz, Hirsch & German, 1997) - Patient assessments included: 1) ADE (Sachs, 1990) 2) The Clinical Monitoring Form (Sachs & Thase, 2003) 3) GAF (APA, 1994) -	• BAD	• Caregiver-focused stigma and discrimination • Caregiver burden • Caregiver sense of control • Caregiver avoidant coping • Social support • Depression • General Health • Health risk behaviour • Carer demographics • Patient demographics • Patient clinical characteristics	• Caregiver stigma is relatively stable over time. • In comparison to caregivers who were classified as in the ‘effective group’, caregivers in the ‘stigmatised group’ reported higher levels of burden, lower mastery, and poorer health practices.

Author(s) & date	Country	Sample/ Population	Design and methodology	Type of problem studied	Aspect of stigma studied and associated variables	Key findings
Vazquez et al. (2011)	Argentina Brazil Colombia	• *N*=241 • People with BAD	• Cross-sectional • Questionnaires - ISE (Stuart et al., 2005) - Functioning Assessment Short Test (Rosa et al., 2007) - YMRS (Young, Biggs, Ziegler, & Meyer, 1978) - HRSD (Hamilton, 1960)	• BAD	• Stigma experiences • Stigma impact • Psychosocial functioning • Depression and mania severity • Clinical variables • Socio-demographic variables	• High degree of internalised stigma. • Internalised stigma negatively associated with psychosocial functioning in Brazil and Columbia but not in Argentina. • Internalised stigma positively associated with depressive and manic symptomatology. • Internalised stigma positively associated with being on disability benefit.
Zauszniewski et al. (2008)	USA	• N=60 • Female carers of people with SMI (BAD, SZ)	• Cross-sectional • Questionnaires - Caregiver Burden Scale (Biegel, Milligan, Putnam & Song, 1994) (contains four subscales: Stigma, Family Disruption, Client Dependence, and Caregiver Strain) - Depressive Cognition Scale (Zauszniewski, 1995) - Resourcefulness Scale (Zauszniewski, Lai, & Tithiphontumrong, 2006)	• BAD • SZ	• Internalised stigma • Diagnosis (BAD or SZ)	• Internalised stigma significantly greater in female family members of adults with BAD compared to schizophrenia.

Note. BAD = Bipolar Affective Disorder; SZ = Schizophrenia; DEP = Depression.

3.1. Public and Professional Beliefs about and Attitudes towards Bipolar Disorder

Table 4 outlines the quality assessment ratings for studies exploring public and professional attitudes and beliefs. Overall, the primary methodological weakness was concerning the population studied, as these were often convenience samples consisting of a high number of students or overeducated participants. Only one of the 11 studies rated was assessed as high quality.

Table 4

Quality Assessment Ratings for Studies Investigating Public and Professional Beliefs about and Attitudes towards Bipolar Disorder

Author(s) & date	Methodological items								Overall assessment
	Aim of study	Focus of study	Method	Population	Bias	Cohort study	Tables & graphs	Analysis	
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	
Day et al. (2007)	+	+	+	–	?	N/A	+	+	+
Furnham (2009)	+	+	+	+	+	N/A	+	+	++
Furnham (2010)	+	+	+	–	+	N/A	+	+	+
Imran & Haider (2007)	+	+	+	?	+	N/A	+	–	+
Loo et al. (2012)	+	+	+	–	+	N/A	+	+	+
Parker et al. (2000)	+	+	+	+	?	N/A	+	?	+
Smith et al. (1996)	+	+	?	–	–	N/A	+	?	–
Stip et al. (2006)	+	+	+	+	?	N/A	?	+	+
Sugiura et al. (2000)	–	+	–	–	–	N/A	–	–	–
Wolkenstein & Meyer (2008)	+	+	+	–	+	N/A	+	+	+
Wolkenstien & Meyer (2009)	+	+	–	?	+	N/A	+	+	+

Note. Ratings: + (yes); – (no); ? (can't tell); Overall assessment: ++ (high quality); + (medium quality); – (low quality). For a full description of items see Appendix B.

3.1.1. Public Beliefs and Attitudes

Literature pertaining to each core component of public stigma (knowledge, stereotypes, emotional reactions, and behavioural intentions) will be summarised and evaluated in turn.

3.1.1.1. Knowledge

Four studies explored knowledge of bipolar disorder (Furnham, 2009; Furnham & Anthony, 2010; Loo, Wong, & Furnham, 2012; Stip, Caron, & Mancini-Marie, 2006) and one of a manic episode (Sugiura, Sakamoto, Kijima, Kitamura, & Kitamura, 2000). Facets of knowledge investigated included recognition (three studies), causal beliefs (three studies), beliefs about treatment (five studies), and beliefs about prognosis (two studies).

Of the three studies which explored recognition, two were assessed as medium quality (Furnham & Anthony, 2010; Loo et al., 2012) and one low (Sugiura et al., 2000). A UK based study found that bipolar disorder was recognised less than depression (43.4% vs. 89.6%), but to a similar extent as schizophrenia (43.4% vs. 34.1%) (Furnham & Anthony, 2010). The generalisability of these findings is questionable though; given that the sample was small and over a third were psychology students, they may be an overestimate. Using a similar unlabelled vignette methodology, Loo et al. (2012) compared bipolar disorder to eight other disorders in three countries (UK, Hong Kong, and Malaysia) and found that bipolar disorder was the second least recognised in all countries. Further, in all counties participants reported being least confident in recognising bipolar disorder, and it was often mistaken for drug or other addictions, ADHD, 'overconfidence', or being a 'workaholic'. Despite finding a substantially lower recognition rate among British participants than Furnham and Anthony (2010) (18% vs. 43.4%), this study also had

an overly educated sample, suggesting this may also be an overestimate. Both studies neither assessed nor controlled for familiarity with the specific disorders in question, but rather only ascertained whether participants had contact with people with mental illness in general. Differential recognition rates between disorders may therefore be accounted for by different degrees of personal contact with that disorder. In a low quality Japanese study (Sugiura et al., 2000), recognition rates of a manic episode were third lowest compared to eight other disorders. This study did not assess participants' ability to label a vignette, though, and instead provided participants with labelled vignettes and asked if they had heard of the name. This negates the possibility of determining the accuracy of this self-report and means this finding cannot be directly compared to the two studies above. This, coupled with this study's small sample of college students, raises questions regarding its generalisabilty.

Of the three studies which explored causal beliefs for bipolar disorder, one was rated as high quality (Furnham, 2009), and two medium (Furnham & Anthony, 2010; Stip et al., 2006). Two UK studies found environmental and biomedical causes to be most highly endorsed, but reported different findings regarding which was seen as most important. One found that bipolar disorder was viewed most similarly to depression, with environmental causes seen as most important (Furnham, 2009). The other did not find a bias towards either biomedical or environmental causes (Furnham & Anthony, 2010). In a Canadian study, biomedical causes were most highly endorsed (37%), followed by psychological (27%) and environmental (26%) (Stip et al., 2006). While this study obtained a large representative sample, unlike the two studies carried out in the UK, the authors did not use rigorous

processes to develop their measure, nor provide reliability data for their sample, possibly increasing measurement error.

Five studies explored the public's beliefs about treatment, one was rated high quality (Furnham, 2009), and four medium (Day, Edgren, & Eshleman, 2007; Furnham & Anthony, 2010; Loo et al., 2012; Stip et al., 2006). Two UK studies found that medication and other drug treatments were most highly endorsed (Furnham, 2009; Furnham & Anthony, 2010). There is evidence that bipolar disorder is viewed more similarly to schizophrenia than to depression, with regard to the types of treatments recommended (Furnham, 2009), and treatability (Day et al., 2007). The latter finding should be interpreted with caution due to the study's failure to control for familiarity, and unrepresentative sample. In a cross-cultural comparison, British and Hong Kong participants were more likely to recommend professional help compared to Malaysian participants, with all participants least likely to recommend social support (Loo et al., 2012). Differential educational attainment between these groups was not controlled for though, and Malaysian participants were less educated. In Canada, using a large representative sample of the general population, beliefs about treatment were largely consistent with current Western practice, with 62% of respondents endorsing either a combination of medication and psychotherapy, or lithium and other mood stabilisers.

Two studies explored beliefs about prognosis, one was rated high quality (Furnham, 2009) and one medium (Day et al., 2007). Both studies found that bipolar disorder is thought to have a worse prognosis than depression but a similar one to schizophrenia. Bipolar disorder was not thought to have a good chance of cure or remission (Furnham, 2009), and was thought to have a lower chance of recovery than mental illness overall (Day et al., 2007). Neither study specified whether this

judgement was assuming that the person had access to treatment or not, a factor which has been consistently found to influence beliefs about prognosis (Angermeyer & Dietrich, 2006). This makes it difficult to ascertain what questions were assessing or whether this assumption was uniform across disorders.

3.1.1.2. Stereotypes

Two studies explored stereotypes associated with bipolar disorder (Day et al., 2007; Stip et al., 2006) and two with a manic episode (Sugiura et al., 2000; Wolkenstein & Meyer, 2008). Three were considered medium quality (Day et al., 2007; Stip et al., 2006; Wolkenstein & Meyer, 2008), and one low (Sugiura et al., 2000). There was little consistency between studies with regard to the type of stereotype investigated, with the exception of 'dangerousness' which was explored by three studies (Stip et al., 2006; Sugiura et al., 2000; Wolkenstein & Meyer, 2008).

In Germany, attributes related to dangerousness were ascribed more to a person with a manic episode than one with depression (Wolkenstein & Meyer, 2008). When compared to schizophrenia, however, only 28% of participants thought people with bipolar disorder to be violent or dangerous, compared to 54% for schizophrenia (Stip et al., 2006). In contrast, in Japan a manic episode was viewed the second most dangerous (more so than schizophrenia) out of eight disorders, with only delusional disorder scoring more highly (73.4% vs. 91.9%). This finding should be interpreted with caution due to the study's small student sample. Further, only one of these studies used a valid and reliable measure of cognitive reactions (Wolkenstein & Meyer, 2008), with the other two asking a single question about dangerousness with a forced choice response, limiting more sensitive analysis. Finally, Wolkenstein and Meyer (2008) did not use labelled vignettes, nor ask participants to assign a label, so

it is possible that participants were assigning an incorrect label (i.e. drug addiction) and basing responses on this.

With regard to other stereotypes, findings for bipolar disorder were generally positive in comparison to other disorders. Bipolar disorder was rated as less easily detectable and associated with better personal hygiene than depression (Day et al., 2007), and was not associated with low intelligence (Stip et al., 2006). Mania was associated with less helplessness than depression (Wolkenstein & Meyer, 2008), and judged as third most likely to make a social readjustment compared to eight other disorders (Sugiura et al., 2000). It should be noted that only one of these four studies (Stip et al., 2006) had a representative sample, with the other three mainly consisting of students.

3.1.1.3. Emotional Reactions

Two studies explored emotional reactions towards bipolar disorder (Day et al., 2007; Stip et al., 2006) and one towards a manic episode (Wolkenstein & Meyer, 2008); all were deemed to be of medium quality. One study used a scale specifically designed for the measurement of a wide range of emotional reactions (Wolkenstein & Meyer, 2008), but did not provide reliability statistics for their sample. One only measured reactions relating to interpersonal anxiety (Day et al., 2007), and one only measured two reactions (panic and desire to help) through the use of two forced choice questions (Stip et al., 2006). There are therefore inconsistencies across studies regarding both the breadth of reactions explored and their measurement.

Two studies concluded that bipolar disorder evokes less interpersonal anxiety, less panic and more desire to help compared to schizophrenia (Day et al., 2007; Stip et al., 2006). In contrast, when a manic episode is compared to depression, participants were less likely to respond with pity and desire to help and

more likely to respond with desire to withdraw, irritation, and lack of understanding towards a manic episode (Wolkenstein & Meyer, 2008). These two groups were not, however, matched on familiarity with the specific disorders which may partly account for the observed differences. Further, as outlined above with regard to stereotypes, these reactions were measured in response to an unlabelled vignette, making it impossible to determine whether participants were responding to a manic episode or another self-assigned label. Finally, in relation to a manic episode, the most common emotional reactions were concern, lack of understanding, and desire to help (Wolkenstein & Meyer, 2008).

3.1.1.4. Behavioural Intentions

One study explored behavioural intentions towards people with bipolar disorder (Stip et al., 2006) and one towards a manic episode (Wolkenstein & Meyer, 2008); both were assessed as medium quality. Wolkenstein and Meyer (2008) found a greater overall desire for social distance, one of the most frequently used measures of behavioural intentions, towards individuals with mania compared to depression. Stip et al. (2006) assessed behavioural intentions indirectly by asking participants how they thought an employer would react. Participants thought an employer would be more likely to terminate employment with someone with schizophrenia (31%) than with bipolar disorder (21%), but the statistical significance of this difference was not reported.

3.1.1.5. Associated Variables

Four studies explored variables associated with stigma towards bipolar disorder, and one towards a manic episode. Of these five, one was assessed as high quality (Furnham, 2009), and four medium (Day et al., 2007; Furnham & Anthony, 2010; Stip et al., 2006; Wolkenstein & Meyer, 2009).

There are mixed findings with regard to familiarity. Two studies found a negative influence of familiarity (Furnham, 2009; Wolkenstein & Meyer, 2009), including less optimism about treatment (Furnham, 2009), and lower intention to recommend someone with a manic episode for a job (Wolkenstein & Meyer, 2009). The latter finding should be interpreted with caution as their sample consisted of young, predominantly male, participants. One UK study found no association between familiarity and recognition (Furnham & Anthony, 2010), whereas a study in the USA found a positive effect, with familiarity associated with less interpersonal anxiety, less perceived relationship disruption, and higher perceived treatability (Day et al., 2007). Both of these studies are problematic with regard to their generalisability, as a significant proportion of participants were current or former psychology students.

There are inconsistent findings with regard to gender, age, and educational attainment. No association was found with any of these variables by Furnham and Anthony (2010), while Stip et al. (2006) found that women were better informed regarding treatments, older participants were more likely to believe that people with bipolar disorder were dangerous, and people with higher educational attainment were more likely to endorse biomedical causal beliefs.

3.1.2. Professional Beliefs and Attitudes

Two studies explored the attitudes of professionals towards mania (Imran & Haider, 2007; Parker, Chen, Kua, Loh, & Jorm, 2000), both rated as medium quality, and one towards bipolar disorder (Smith, Sapers, Reus, & Freimer, 1996), rated as low quality.

With regard to knowledge, one study explored recognition, treatments, and prognosis (Parker et al., 2000), and another only investigated prognosis (Imran &

Haider, 2007). There were high rates of recognition among mental health staff in Singapore (73%-100%). In relation to treatments, mania was deemed to require treatments more similar to schizophrenia than depression, with seeing a psychiatrist and admission to psychiatric hospital considered most helpful (Parker et al., 2000). There were mixed findings with regard to prognosis, with one study finding that mania was viewed most similarly to schizophrenia (Parker et al., 2000), and another most similarly to depression (Imran & Haider, 2007). It is unclear whether these differences were attributable to different samples, cultures, or measurement of prognosis, making interpretation difficult.

One Pakistani study explored stereotypes regarding mania among general medical staff and students (Imran & Haider, 2007). Mania was thought to be more dangerous than anxiety, depression and dementia, and less dangerous than alcohol addiction, drug addiction and schizophrenia, although the percentages for bipolar disorder and schizophrenia were similar (63.4% vs. 68.6%). Mania was rated as less unpredictable than schizophrenia, and there were low attributions of blame for both conditions. This study did not, however, perform any statistical comparisons between disorders, assess or control for familiarity with the respective disorders, and sought responses to diagnostic label alone. The may be particularly problematic among medical students, who may have been unfamiliar with the disorder in question.

Two studies assessed the degree to which participants thought bipolar disorder or mania were stigmatised by the public. This was found to be higher among professionals in Singapore (between 70%-91%) (Parker et al., 2000), than in the USA (between 47%-62%) (Smith et al., 1996).

There were no studies exploring professionals' causal beliefs, emotional or behavioural reactions towards bipolar disorder.

3.2. Internalised Stigma in People with Bipolar Disorder, their Families and Carers

The quality assessment for studies investigating internalised stigma is presented in Table 5. Overall, the primary methodological weakness was concerning the population studied, with issues of heterogeneity, size, and representativeness.

Seven studies explored internalised stigma in those with bipolar disorder, four publications (from two studies) investigated affiliative stigma, and three publications studied both people with bipolar disorder and their families.

Table 5

Quality Assessment Ratings for Studies Investigating Internalised Stigma in People with Bipolar Disorder, their Families and Carers

Author(s) & date	Methodological items								Overall assessment
	Aim of study	Focus of study	Method	Population	Bias	Cohort study	Tables & graphs	Analysis	
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	
Cerit et al. (2012)	+	+	+	+	+	N/A	+	+	++
Gonzalez et al. (2007)	+	+	+	+	+	N/A	+	+	++
Hayward et al. (2002)	+	+	+	_	?	N/A	+	+	+
Lazowski et al. (2012)	+	+	+	?	+	N/A	+	+	+
Lee et al. (2011)	+	?	+	?	?	N/A	+	?	_
Meiser et al. (2007)	+	+	+	?	+	N/A	+	+	+
Perlick et al. (2001)	+	+	+	+	+	+	+	+	++
Perlick et al. (2007)	+	+	+	+	+	+	+	+	++
Perlick et al. (2008)	+	+	+	+	+	N/A	+	+	++
Vazquez, et al. (2011)	+	+	+	?	?	N/A	+	+	-
Zauszniewski et al. (2008)	+	+	+	?	?	N/A	+	+	+

Note. Ratings: + (yes); – (no); ? (can't tell); Overall assessment: ++ (high quality); + (medium quality); – (low quality). For a full description of items see Appendix B.

3.2.1. Extent of Internalised Stigma in People with Bipolar Disorder

Of the seven studies which reported data on the degree of internalised stigma, two were considered high quality (Aydemir & Akkaya, 2011; Cerit, Filizer, Tural, & Tufan, 2012), three medium (Hayward, Wong, Bright, & Lam, 2002; Lazowski, Koller, Stuart, & Milev, 2012; Meiser et al., 2007), and two low (Lee et al., 2011; Vazquez et al., 2011). Internalised stigma was measured by five different questionnaires, with two studies using the Internalised Stigma of Mental Illness Scale (ISMI; Ritsher et al., 2003), two using the Inventory of Stigmatising Experiences (ISE; Lazowski et al., 2012), one using the Sense of Stigmatisation subscale of Bipolar Disorder Functioning Questionnaire (BDFQ-Stigma; Aydemir et al., 2006), one using the Self-Esteem and Stigma Questionnaire (SE/SQ; Hayward et al., 2002), and one using the Perceived Devaluation-Discrimination Scale (PDD; Link et al., 1987). This inconsistency in measurement makes direct comparison between these studies difficult. Further, the two studies that used the ISE did not use the same response set nor report their findings using the same statistic, and the two studies using the ISMI had different samples, making even these comparisons problematic.

A moderate degree of internalised stigma was found among remitted bipolar patients, with a mean ISMI score of 2.27 [1] (Cerit et al., 2012). In contrast, scores were lower among participants seeking family oriented treatment, with a mean ISMI score of 1.82 (Lee et al., 2011). Although this surprisingly suggests that those who are currently unwell experience a lower degree of stigma than those in remission, the latter finding should be interpreted with caution. This study had a smaller sample (n = 43 vs. n = 88),

[1] It has been suggested that high scores can be defined as above the midpoint of the possible range (2.5 on the 4 point scale) (Ritsher & Phelan, 2004). This definition of 'high' has been used for all questionnaires reviewed.

and did not report their response rate. Further, the heterogeneity of their sample (they included bipolar I, bipolar II and bipolar Not Otherwise Specified) and the fact that they did not determine current clinical status (i.e. whether participants were currently experiencing depression or mania), makes interpretation difficult.

Both studies using the ISE, which measures stigma experiences and stigma impact, reported a high degree of internalised stigma. Lazowski et al. (2012) found that all stigma experience items were endorsed by a third or more participants, and reported a mean stigma impact score above the midpoint (M = 37.5; range 0-70). They found no difference between bipolar disorder and depression with regard to stigma experience, but people with bipolar disorder reported a greater psychosocial impact of stigma (M = 37.5 vs. M = 29.5). Due to this study's recruitment method the sample was likely to be skewed towards those with more severe presentations; further, current clinical status was not assessed, making the findings difficult to generalise. Although the second study that used the ISE (Vazquez et al., 2011) found a similarly high degree of internalised stigma in the three South American countries sampled (stigma experiences: median = 5 for all countries, range 0-10; stigma impact: median = 32-36, range 0-49), the ISE has not been validated for use in these countries, and the authors did not provide any reliability statistics for their sample.

Of the three remaining studies which explored the extent of internalised stigma, two found it to be high (Aydemir & Akkaya, 2011; Hayward et al., 2002), and one moderate (Meiser et al., 2007). A high degree was reported on the 4-item BDFQ-stigma, with an average item score of 2.15 (Likert scale of 1-3) (Aydemir & Akkaya, 2011). There was also high endorsement for all stigma items on the SE/SQ, with the greatest extent relating to whether employers would hire someone who formerly

experienced manic depression (only 17% agreed with this statement) (Hayward et al., 2002). Finally, a slightly lower degree was found on the 12-item PDD, with an average item score of 2.9 (Likert scale of 1-5) (Meiser et al., 2007). Direct comparisons between these three studies should be made with caution, though, as they report on somewhat different samples. Alydemir and Akkaya (2011) used a sample of remitted patients and excluded all comorbidities including those with low self-esteem (a variable associated with stigma, see below); Hayward et al. (2002) recruited members of bipolar disorder self-help groups, who are possibly more likely to report stigma than those not seeking treatment; and Meiser et al. (2007) had a highly educated sample of bipolar patients, and did not report data on current clinical status.

A qualitative study (Michalak et al., 2011) found that although internalised stigma affected the participant's ability to self-manage bipolar disorder, its effect on their identity was both positive and negative. Specifically, a proportion of the sample described progression from a state of stigma to one in which they integrated the illness experience into a positive social identity.

3.2.2. Extent of Internalised Stigma in Carers and Family Members

Three studies reported the extent of affiliative stigma. One was considered high quality (Gonzalez et al., 2007), one medium (Meiser et al., 2007), and one low (Lee et al., 2011). Two studies reported a moderate degree of internalised stigma: one found a greater degree of patient-focused stigma than caregiver-focused stigma (with participants agreeing/strongly agreeing with 38%-66% of items on the DSS) (Gonzalez et al., 2007); and the other reported an average item score of 2.8 (Likert scale of 1-5) on the 12-item PDD (Meiser et al., 2007). In contrast, a low degree of stigma was found on an adapted version of the ISMI, with an average item score of 1.89 (Likert scale of 1-

4) (Lee et al., 2011). Two of these studies (Gonzalez et al., 2007; Meiser et al., 2007) had overly educated samples, which may bias findings. It is also unclear how reliable the measurement in Lee et al.'s (2011) study was as they did not provide statistics for their modified version of the ISMI.

One study found that female caregivers of people with bipolar disorder reported a significantly higher degree of internalised stigma compared to caregivers of people with schizophrenia (Zauszniewski, Bekhet, & Suresky, 2008), although it could not be determined whether either of the reported values could be considered a high degree of stigma.

3.2.3. Factors Associated with Internalised Stigma in People with Bipolar Disorder

Six studies have explored factors associated with internalised stigma. Two were considered high quality (Aydemir & Akkaya, 2011; Cerit et al., 2012), three medium (Hayward et al., 2002; Lazowski et al., 2012; Perlick et al., 2001), and one low (Vazquez et al., 2011). Of these six studies, only one used a longitudinal design making it difficult to separate factors which predict internalised stigma from those which are consequences of it.

With regard to psychosocial factors, two studies explored functional impairment, with one finding an association among remitted bipolar patients (Cerit et al., 2012), and the other finding an association in two of the three countries investigated (Vazquez et al., 2011). The heterogeneity of the latter sample, and the lack of standardisation between countries, makes this finding tentative. Two studies, both using the same measure (the Social Adjustment Scale (SAS); Weissman & Bothwell, 1976), found an association between social adjustment and internalised stigma (Hayward et al., 2002; Perlick et al., 2001). Perlick et al. (2001), using a longitudinal design, found that

internalised stigma during the acute phase of illness predicted impaired social functioning in interactions with persons outside the family, but not with family members. Hayward et al. (2002) reported an association with total SAS score, although they did not control for clinical and demographic variables. Two studies found a negative association between internalised stigma and self-esteem (Aydemir & Akkaya, 2011; Hayward et al., 2002). Finally, one study found a negative association between internalised stigma and social anxiety (Aydemir & Akkaya, 2011), and another between internalised stigma and perceived social support (Cerit et al., 2012).

With regard to clinical variables, two studies found a positive relationship between depressive symptomatology and internalised stigma (Cerit et al., 2012; Vazquez et al., 2011), and one found no association (Hayward et al., 2002). One study found a positive association with manic symptomatology (Vazquez et al., 2011), and two found no association (Cerit et al., 2012; Hayward et al., 2002). A positive association with number of hospitalizations was found by Cerit et al. (2012), but not by Lazowski et al. (2012).

With regard to socio-demographic variables, of the four studies which explored their association with internalised stigma, three found no association with any of the variables studied (Aydemir & Akkaya, 2011; Lazowski et al., 2012; Vazquez et al., 2011), and one found a positive association with years in education (Cerit et al., 2012).

3.2.4. Factors Associated with Internalised Stigma in Carers and Family Members

Three publications, all derived from one USA sample and judged to be of high quality, explored factors associated with affiliative stigma. One publication reported on longitudinal data (Perlick et al., 2008), and two cross-sectional (Gonzalez et al., 2007; Perlick et al., 2007).

Perceived stigma was associated with depressive symptomatology, after controlling for patient status and socio-demographic factors. This association was mediated by reduced coping effectiveness (Perlick et al., 2007). Associations with stigma were found to vary depending on the patient's clinical status (Gonzalez et al., 2007). Among those caring for someone who was currently unwell, stigma was associated with bipolar I (vs. bipolar II), less social support, fewer social interactions, and the caregiver being of Hispanic descent. In contrast, among those caring for someone who was currently well, stigma was associated with having a college education, fewer social interactions, caring for a female bipolar patient, and caring for a parent. Longitudinal data (Perlick et al., 2008) suggests that caregiver stigma is relatively stable over time, with 66.5% of caregivers remaining in what was classified the 'stigmatised group' at six month follow up. This sample was skewed towards being overeducated, which may bias the findings towards a higher degree of stigma (Cerit et al., 2012).

3.2.5. Factors Associated with Internalised Stigma: Studies of People with Bipolar Disorder and Carers Simultaneously

Two quantitative studies, one of medium quality (Meiser et al., 2007) and one low (Lee et al., 2011), and one qualitative study (Meiser, Mitchell, McGirr, Van Herten, & Schofield, 2005) explored associated variables in patients and carers together. Endorsement of a genetic causal model was positively associated with perceived stigma among family members but not among people with bipolar disorder (Meiser et al., 2007). In the qualitative study exploring the same question, most participants felt that a genetic explanation was likely to decrease stigma as it shifted the locus of control and responsibility away from the individual (Meiser et al., 2005). In the USA, Lee et al.

(2011) found that internalised stigma was associated with treatment non-adherence and depression in people with bipolar disorder but not in caregivers. The many methodological weaknesses in this study, such as its small sample, failure to confirm diagnosis, and failure to statistically correct for multiple comparisons, raise questions regarding the accuracy of these findings.

4. Discussion

This review of the peer-reviewed literature dating from 1992 to 2012 indicates that there is a dearth of literature on both public attitudes and internalised stigma in bipolar disorder. This scarcity is particularly apparent when compared to the large volume of literature on other mental health problems with similar prevalence rates, such as schizophrenia and depression (Kanter, Rusch, & Brondino, 2008; Livingston & Boyd, 2010).

4.1. Public Stigma

All studies identified on public stigma represent descriptive accounts of attitudes towards and beliefs about bipolar disorder. This signifies a lack of research testing theory based models, such as the relationship between the various components of stigma. Inconsistencies between studies in terms of methodology and measurement make comparison between findings more difficult, and the overrepresentation of convenience samples consisting mainly of students raises questions regarding the generalisability of findings. Finally, the literature is divided between studies assessing attitudes towards bipolar disorder and those assessing solely mania. As it remains unclear whether these elicit similar responses, the evidence base for each condition is small.

It remains unclear how recognition rates for bipolar disorder compare to those for other disorders. Future research, which controls for educational attainment and familiarity with the disorders in question, is needed to test the tentative hypothesis that mania has a low recognition rate in comparison to other disorders. The possible misdiagnosis of mania as drug addiction among lay people (Day et al., 2007; Wolkenstein & Meyer, 2008) is another avenue for future research. If this is a common occurrence it has implications for attitudes, given that drug addiction is viewed more negatively than most mental health problems (Schomerus et al., 2011).

The findings on causal beliefs are mixed. In representative samples, environmental causes are most endorsed in the UK and biomedical causes are most endorsed in Canada. Differences in methodology may account for this disparity, and there is therefore insufficient evidence to conclude that this represents a true cultural difference.

The public are fairly well informed about treatments for bipolar disorder, with beliefs largely adhering to current Western practice (Goodwin & Jamison, 2007). Medication, professional help, a combination of medication and psychotherapy, and mood stabilisers are most highly endorsed. Findings tentatively suggest that bipolar disorder is viewed more similarly to schizophrenia than to depression with regard to treatments and beliefs about treatability (Day et al., 2007; Furnham, 2009).

The literature on beliefs about prognosis is limited and difficult to interpret due to studies not specifying whether the person had access to treatment or not. The two studies which explored prognosis were consistent, though, with bipolar disorder thought to have a worse prognosis than depression but a similar one to schizophrenia. Future research is needed to explore prognosis, while taking treatment status into account.

The literature on stereotypes and emotional reactions is limited, with only one study measuring these constructs using a valid and reliable measure, and the majority of studies using student samples. Dangerousness was the only stereotype measured by more than one study, with findings tentatively suggesting that bipolar disorder is viewed as more dangerous than depression but less dangerous than schizophrenia. Future research is needed to obtain a consensus, as these studies were inconsistent in their methodology and conducted in different countries. In relation to other stereotypes, such as visibility, hygiene, helplessness, and ability to adjust socially, bipolar disorder was viewed more positively, even in comparison to depression (Day et al., 2007; Stip et al., 2006; Sugiura et al., 2000; Wolkenstein & Meyer, 2008), although it is unclear whether this conclusion generalises beyond student samples. With regard to emotional reactions, bipolar disorder elicits more positive reactions when compared to schizophrenia, and less positive reactions when compared with depression. Overall, the most common emotional reactions to a manic episode were concern, lack of understanding, and desire to help (Wolkenstein & Meyer, 2008). This would suggest that bipolar disorder is viewed more similarly to depression, where the majority of the population show pro-social reactions such as pity and desire to help, than to schizophrenia, which is more often characterised by fear, uneasiness, and uncertainty (Angermeyer & Dietrich, 2006). Conclusions are tentative, though, as only one study explored this range of emotions.

Similar to emotional reactions, findings tentatively suggest that bipolar disorder elicits more negative behavioural intentions when compared to depression, and more positive intentions when compared to schizophrenia (Stip et al., 2006; Wolkenstein & Meyer, 2008). Future research is needed to replicate these findings as they were derived from different countries and measures.

With regard to associated variables, this review suggests somewhat different associations compared to literature on general mental illness, schizophrenia, and depression. In relation to familiarity or contact, the majority of research either found no association or a negative one. This stands in contrast to existing literature, which has generally found a positive effect on attitudes and discrimination (e.g. Angermeyer & Matschinger, 1996a; Angermeyer, Matschinger, & Corrigan, 2004; Corrigan, Green, Lundin, Kubiak, & Penn, 2001). This may have implications for anti-stigma interventions, as interventions based on contact have consistently been found to be effective for other mental health problems (e.g. Corrigan, Larson, Sells, Niessen, & Watson, 2007) but may have negative effects in bipolar disorder. Replication of these findings in larger more representative samples is needed. Further, the majority of these studies did not assess familiarity with bipolar disorder specifically, a potentially important factor. All demographic variables explored either had inconsistent findings or were only investigated in one study, making it difficult to draw any clear conclusions.

There is a dearth of literature exploring the attitudes of professionals towards bipolar disorder. There is tentative support for there being a high degree of stigma among professionals. Findings on perceived prognosis were inconsistent and other variables, such as beliefs about treatments and stereotypes, were only investigated in single medium quality studies.

In summary, findings on recognition and causal beliefs among the public are inconsistent, whereas beliefs about treatments and prognosis are more similar to those of schizophrenia than depression. With regard to stereotypes, emotional reactions and behavioural reactions, the limited evidence suggests that bipolar disorder is viewed more positively than schizophrenia and less than depression. Although literature on

professional attitudes is limited it supports a similar trend, with bipolar disorder and schizophrenia being most similar with regard to knowledge, but bipolar disorder being viewed more positively than schizophrenia and less positively than depression with regard to stereotypes.

Inconsistent findings mean this review neither supports nor disproves the hypothesis that increased media coverage and celebrity disclosures have improved attitudes towards bipolar disorder. It is possible that research is not recent enough to identify a change in attitudes since media coverage has increased, which has been in the UK and USA from around 2006. The latest attitude research in the USA was published in 2007, in Canada in 2006, and in the UK in 2010, with the obvious lag between data collection and publication. The public's good knowledge of treatments for bipolar disorder, which are more accurate compared to other mental health problems (Angermeyer & Dietrich, 2006; Angermeyer & Matschinger, 1996b; Furnham & Henley, 1988; Knapp & Delprato, 1980), may be associated with increased media coverage, although longitudinal research is needed to determine any causal relationship. In more educated samples in the UK there is evidence that causal beliefs are more consistent with the views of Western psychiatry (Furnham & Anthony, 2010), possibly suggesting that media coverage has influenced knowledge in some demographic groups.

Overall, there is currently insufficient evidence to arrive at a valid model of stigma in bipolar disorder, which is a prerequisite for effective anti-stigma campaigns. Future research needs to prioritise the use of valid and reliable measures, more representative non-student samples, and testing theory based models of stigma. There is a need for research focusing on the public's cognitive, emotional and behavioural reactions, and research on professional attitudes. Finally, literature to date has

exclusively focused on self-reported attitudes, allowing for the possibility of socially desirable responding. Future research would benefit from exploring implicit attitudes towards this population (Stier & Hinshaw, 2007).

4.2. Internalised Stigma

Literature on internalised stigma in bipolar disorder is scant, with only seven studies in total and only five of which were deemed to be of medium to high quality. Nevertheless, the literature suggests that there is a moderate to high degree of internalised stigma among people with bipolar disorder, with a slightly higher degree found in studies involving participants with more severe presentations than among those in remission. Internalised stigma among remitted bipolar patients has, however, only been explored in Turkey and it is currently unknown whether these findings generalise to other populations.

Contradictory findings from two studies (Lee et al., 2011; Michalak et al., 2011) should not be disregarded, given that evidence is limited and the field is in its infancy. The possibility that internalised stigma in bipolar disorder is low (Lee et al., 2011), or that at least some of those affected integrate their illness experience into a positive social identity (Michalak et al., 2011), should be explored in future research.

Only one study compared internalised stigma between bipolar disorder and another disorder (depression), finding that there was a similar degree of stigma experiences in both disorders but a greater impact of stigma in bipolar disorder. This suggests that the factors which mediate the relationship between stigma experiences and stigma impact, such as withdrawal or avoidance coping (Kanter et al., 2008; Link, Mirotznik, & Cullen, 1991; Link, Struening, Neese-todd, Asmussen, & Phelan, 2002),

may be different in these two disorders. Research is needed on the coping strategies used by people with bipolar disorder to manage stigma.

With regard to variables associated with internalised stigma, this review suggests a negative relationship with three psychosocial variables: functional impairment, social adjustment, and self-esteem. Single high quality studies found negative relationships between social anxiety and social support. The literature on clinical variables was more inconsistent, although there were trends towards a positive association with depressive symptoms and number of hospitalisations, and no relationship with mania symptomatology. On the whole, no association was established between socio-demographic variables, although one high quality study found a positive association with years in education (Cerit et al., 2012). These findings are broadly in line with a systematic review and meta-analysis on the correlates of internalised stigma (Livingston & Boyd, 2010). This found robust relationships between internalised stigma and psychosocial variables (self-esteem, social support), clinical variables (psychiatric symptom severity), and no relationship with socio-demographic variables. Significant associations identified by Livingston and Boyd (2010) for other psychosocial variables, such as self-efficacy, hope and empowerment, have not yet been explored in relation to bipolar disorder.

All but one of the studies on associated variables utilised cross-sectional designs, negating the possibility of determining any causal relationships between such variables. It is possible, therefore, that people with existing low self-esteem are more aware of stigmatising beliefs, rather than this being a consequence of internalised stigma. Indeed, longitudinal data reviewed by Livingston and Boyd (2010) suggested that low self-

esteem was in fact a predictor of internalised stigma. There is a need for longitudinal research in this area if adequate anti-stigma interventions are to be developed.

Given the significant associations found with a number of psychosocial variables, people with bipolar disorder may benefit from interventions aimed at reducing internalised stigma (Knight, Wykes, & Hayward, 2006; MacInnes & Lewis, 2008). Learning to integrate the illness into a positive self-identity or adopting a genetic explanation (Meiser et al., 2005; Michalak et al., 2011), are two strategies that require further investigation. The evidence does not, however, suggest targeting such interventions at particular demographic groups.

Findings from this review do not, on the whole, provide support for Corrigan and Watson's model of self-stigma (2002b), which suggests that while some people experience a deleterious effect of internalised stigma, others are energised and experience righteous anger, and others are seemingly unaffected. The heterogeneity of the samples used may mean that subtle differences in the degree and consequences of internalised stigma among participants were not identified though, and righteous anger was not specifically asked about in any studies. There is also tentative support that internalised stigma is not ubiquitous in this group. Research explicitly testing this model is needed.

The evidence suggests a moderate degree of internalised stigma in the carers and family members of people with bipolar disorder, although the evidence base is limited and requires replication in less educated samples. Longitudinal research suggests that carer stigma is relatively stable over time (Perlick et al., 2008), stressing the importance of interventions to increase effective coping strategies among carers of this client group.

In summary, although this review suggests that people with bipolar disorder are, like those with depression, schizophrenia and other mental health problems (Kanter et al., 2008; Link, Struening, Rahav, Phelan, & Nuttbrock, 1997; Ritsher et al., 2003), not impervious to the internalisation of negative attitudes, the literature raises questions regarding the ubiquity of internalised stigma in this population. There is a need for future research to explore the following: coping strategies used to manage stigma and determine whether these serve to exacerbate or ameliorate its effect (Link et al., 1991); a greater range of reactions to internalised stigma (such as righteous anger and self-efficacy); and the extent and consequences of internalised stigma in carers. There is also a need for research using longitudinal designs, and research using measures that have been previously administered in this population to aide synthesis of findings. Finally, methodological weaknesses, such as the use of heterogeneous samples and failure to measure and control for current clinical status, were common among studies and should be addressed in future investigations.

4.3. Limitations

This review excluded studies where stigma was not the main focus, possibly meaning that the impact of stigma was underreported and it has wider implications than were identified. In addition to the problem of underreporting negative or non-significant findings due to publication bias, this review did not include unpublished studies, which may further impede the accuracy of the synthesis. Finally, although a range of countries were represented in this review, the exclusion of research published in languages other than English limits the generalisability of the findings to other national and cultural contexts.

4.4. Summary and Conclusions

Research on public stigma is scarcer and of a lower quality than research on internalised stigma. While it remains largely unclear to what extent people with bipolar disorder are stigmatised by the public, there is some evidence of its deleterious effects on the lives of people with this diagnosis. Indeed, the harmful effects of perceived stigma work beyond the effects of discrimination, as the threat of social exclusion and expectation of the catastrophic loss of social status can arise from simply being a member of a stigmatised group (Gilbert, 2002). There is no doubt that people with mental illness are stigmatised, but much more needs to be done to determine the processes involved in the devaluation of people with bipolar disorder, understand the extent to which negative attitudes are internalised, and evaluate strategies that are used to manage this. Only then can the field begin to tackle the crucial task of developing interventions to change attitudes and foster effective strategies to ameliorate the effects of internalised stigma in people with bipolar disorder.

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Part 2: Empirical Paper

Public Beliefs and Attitudes towards Bipolar Disorder and the Effect of Renaming Conditions on Stigma

Abstract

Aims: This study explored public beliefs about and attitudes towards bipolar disorder and how they compare to schizophrenia, and the effect of renaming disorders on stigma.

Method: An experimental randomised design was used. Participants were 1621 adult members of the UK population. Each participant received two vignettes, one which met Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) criteria for bipolar disorder and was labelled either 'bipolar disorder' or 'manic depression', and the other which met DSM-IV criteria for schizophrenia and was labelled either 'schizophrenia' or 'integration disorder'. Participants were randomly assigned to different label pairings. Causal beliefs, beliefs about prognosis, emotional reactions, stereotypes, and social distance were assessed in response to each vignette.

Results: Bipolar disorder was primarily associated with positive beliefs and attitudes, and was less stigmatised than schizophrenia. Compared to the label 'manic depression', the label 'bipolar disorder' was associated with less stigma on some attitudinal domains, with it reducing fear and desire for social distance. The label 'integration disorder' had mixed effects, with it reducing attributions of dangerousness whilst simultaneously increasing desire for social distance.

Conclusions: Despite the similarities between bipolar disorder and schizophrenia with regard to prevalence and clinical features, they are not viewed similarly by the public. This has implications for addressing internalised stigma in bipolar disorder and for anti-stigma interventions in schizophrenia. Renaming has complex effects on stigma. Further research is needed to elucidate the mechanisms underlying the negative effect the label integration disorder had on social distance.

1. Introduction

People diagnosed with mental illness continue to be marginalised and excluded from society. While efforts to reduce mental illness stigma are making headway (e.g. Henderson & Thornicroft, 2009), there is far to go until mental illness will no longer be associated with shame and stigma. Living in this potentially hostile and threatening environment has devastating consequences for the lives of people with mental illness (see Livingston & Boyd, 2010, for a review).

1.1. Public Attitudes towards Mental Illness

Research on public beliefs about and attitudes towards mental illness is extensive. This has, however, almost exclusively focused on attitudes towards schizophrenia and depression, or towards mental illness in general (Angermeyer & Dietrich, 2006; Thornicroft, 2006; Thornicroft, Rose, Kassam, & Sartorius, 2007). Given that there are considerable differences in lay beliefs about and attitudes towards different disorders (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000), it is surprising that the field has rarely expanded beyond studies comparing schizophrenia and depression. Indeed, two literature reviews on mental illness stigma comment on the scarcity of research into public beliefs about and attitudes towards bipolar disorder (Angermeyer & Dietrich, 2006; Thornicroft, 2006). Further, the literature review pertaining to stigma and bipolar disorder presented in part one of this thesis revealed a paucity of studies investigating public attitudes towards bipolar disorder, and largely inconsistent findings from those which were reviewed. An overrepresentation of samples consisting mainly of students (Day, Edgren, & Eshleman, 2007; Sugiura, Sakamoto, Kijima, Kitamura, & Kitamura, 2000; Wolkenstein & Meyer, 2008; Wolkenstein & Meyer, 2009); use of unreliable measurement (Stip, Caron, & Mancini-Marie, 2006; Sugiura et al., 2000);

failure to conduct statistical comparisons (Stip et al., 2006; Sugiura et al., 2000); the tendency to only investigate mania (Sugiura et al., 2000; Wolkenstein & Meyer, 2008; Wolkenstein & Meyer, 2009); and the focus on lay beliefs as opposed to other aspects of the public's reactions (Furnham, 2009; Furnham & Anthony, 2010; Loo, Wong, & Furnham, 2012) were apparent. The review revealed no UK studies investigating the public's emotional, cognitive or behavioural reactions towards bipolar disorder.

The dearth of research into public attitudes towards bipolar disorder is particularly surprising given the moderate to high degree of internalised stigma found in this population. There is evidence for its deleterious effect on general functioning (Vázquez et al., 2011), social adjustment (Hayward, Wong, Bright, & Lam, 2002; Perlick et al., 2001), self-esteem (Aydemir & Akkaya, 2011; Hayward et al., 2002), and depressive symptomatology (Cerit, Filizer, Tural, & Tufan, 2012; Vazquez et al., 2011).

The media have significant influence on public attitudes towards mental illness (Thornicroft et al., 2007). While this is usually negative (Huxley & Thornicroft, 2003; Leff & Warner, 2006), bipolar disorder has recently been the focus of celebrity disclosures and television programmes, which may have had a positive effect on stigma (Chan, 2010; Chan & Sireling, 2010). Indeed, anti-stigma campaigns such as *Time to Change* (www.time-to-change.org.uk) have used celebrities such as Stephen Fry as part of their campaigns (Eaton, 2009). Bipolar disorder has also been portrayed in the media as associated 'creative types'(Chan, 2010; Chan & Sireling, 2010) and intelligence (Laurance, 2010). In line with this, there are tentative findings derived from student samples, that bipolar disorder is viewed more positively (Day et al., 2007; Stip et al., 2006; Sugiura et al., 2000; Wolkenstein & Meyer, 2008). As public beliefs about intelligence and creativity have not been the focus of research to date, and the other

findings have only been investigated among student populations, it remains unclear whether bipolar disorder is in fact viewed more positively.

There is a need for research comparing attitudes between bipolar disorder and schizophrenia. Both disorders are considered within the category of 'functional psychoses' (Craddock, O'Donovan, & Owen, 2005), have similar degrees of recognition as a mental illness among the general public (Evans-Lacko et al., 2010; The Health and Social Care Information Centre, 2011), and have similar lifetime prevalence rates (Cannon & Jones, 1996; Weissman et al., 1996). Research has found that attitudes towards severe mental illness specifically are the most negative of all health problems (Huxley & Thornicroft, 2003; Leff & Warner, 2006). It is therefore surprising that schizophrenia has primarily been compared with unipolar depression, an illness that is significantly more prevalent and does not generally[2] have psychotic features. Findings from the three studies which have compared schizophrenia and bipolar disorder (Day et al., 2007; Stip et al., 2006; Sugiura et al., 2000), tentatively suggest that schizophrenia is viewed more negatively, although only one of these studies (Day et al., 2007) conducted statistical comparisons between the two disorders, and none of them explored all key elements of stigma (see section on stigma below).

1.1.1. Stigma

Cognitive, emotional and behavioural reactions are understood as distinct yet related components of stigma. Corrigan's model of public stigma (Corrigan, 2000; Corrigan & Watson, 2002) proposes a relationship between these reactions, whereby endorsement of a negative stereotype (i.e. people with mental illness are dangerous),

[2] Although depression can also contain psychotic features, this is much less common than in bipolar disorder, and only occurs in approximately 10-20% of inpatients (Leckman et al., 1984).

leads to an emotional response (i.e. fear), which in turn leads to a behavioural reaction (i.e. a desire for social distance). Thus, emotional reactions are understood as having a key mediating role in the relationship between stereotypes (cognitive reactions) and discrimination (behavioural reactions). There is evidence for this causal path in both schizophrenia and depression, with it explaining a slightly greater proportion of the variance in social distance, the most common measure of behavioural reactions, towards people with schizophrenia than depression (Angermeyer & Matschinger, 2003a; Angermeyer, Matschinger, & Corrigan, 2004). There have been no studies testing theory based models in bipolar disorder (see Literature Review), and an understanding of whether Corrigan's model holds true for bipolar disorder is crucial in developing targeted anti-stigma campaigns and identifying barriers to the social inclusion of people with this diagnosis.

The public's knowledge or 'mental health literacy' is another central component of stigma (Jorm, 2000), and includes facets such as beliefs about causes and prognosis.

1.1.2. Predictors of Mental Illness Stigma

A number of studies have found that public stigma varies depending on socio-demographic characteristics. Specifically, more negative attitudes have been found to be more common among men (Angermeyer, Matschinger, & Holzinger, 1998), those of advancing age (Lauber, Nordt, Falcato, & Rossler, 2004; Ojanen, 1992), and of lower educational attainment (Angermeyer & Matschinger, 2003b; Ojanen, 1992; Wolff, Pathare, Craig, & Leff, 1996). Significant associations have also been found for religiousness (Furnham & Haraldsen, 1998) and ethnicity (Whaley, 1997). It remains unclear whether these variables predict stigma in bipolar disorder (see Literature Review).

Familiarity with mental illness, either through personal experience or having had contact with someone who has a mental illness, is generally associated with less prejudice, less negative emotional reactions, and less discrimination (Angermeyer & Matschinger, 1996; Corrigan, Edwards, Green, Diwan, & Penn, 2001). Wolkenstein and Meyer (2009) found the opposite to be true for attitudes towards mania, leaving the relationship between attitudes towards bipolar disorder and familiarity with mental illness unknown.

1.2. Renaming Disorders and Stigma

Central to the debate regarding the effect of renaming disorders on stigma is the distinction between stigma that is a result of the name itself (known as iatrogenic stigma), and stigma that is a result of the construct or behaviour. The major field to have empirically explored the effect of renaming disorders on public stigma is in relation to intellectual disabilities.

A number of authors argue that the recurrent name change in intellectual disabilities over the last 100 years demonstrates that renaming a condition in an attempt to reduce stigma will only ever be a temporary solution (Schroeder, Gerry, Gertz, & Velazquez, 2002; Walsh, 2002; Wolfensberger, 2002). It is proposed that the construct, not the name, is the root of stigma and therefore over time any new term will invariably become associated with the same negative connotations as the old (Salvador-Carulla & Bertelli, 2008). Based on the 'cognitive miser' conception of schema functioning, there is not even a temporary change in attitudes, as in order to save cognitive energy people apply their existing schema for a condition when presented with a new label. This results in them quickly associating a new label with the old negative connotations (Crocker, Fiske, & Taylor, 1984; Fiske & Taylor, 1991; MacDonald & MacIntyre, 1999;

Macrae, Milne, & Bodenhausen, 1994). While one study has provided support for this hypothesis, finding no change in attitudes when presenting different labels for intellectual disabilities (MacDonald & MacIntyre, 1999), two studies found a positive effect (Eayrs, Ellis, & Jones, 1993; Panek & Smith, 2005). Eayrs et al. (1993) argued that the word 'mental' in the term 'mentally handicapped' had an overriding negative effect, supporting the notion of iatrogenic stigma. Neither study finding a positive effect controlled for the possibility that a new stereotype would develop over time, and there has not been any recent research comparing the terms 'learning disability' or 'intellectual disability' with a different term. Thus, with regard to the intellectual disability field, there appear to be mixed findings concerning the effect of renaming disorders on stigma.

1.2.1. Renaming Manic Depression

'Manic depressive insanity' was first named by Kraepelin in his writings on psychotic disorders in 1899 (Zivanovic & Nedic, 2012). In the early 1950's, Leonard introduced the term bipolar disorder to signify that manic depression was an independent illness, rather than simply depression and mania occurring together (Leonhard, Beckmann, & Cahn, 1999). It was not until 1980, however, that manic depression was officially changed to bipolar disorder with the publication of the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; American Psychiatric Association, 1980). Thus, the renaming of manic depression was not aimed at reducing stigma, but at better conceptualising the condition. It has, however, been cited as an example of where changing terminology has helped to reduce stigma (Kingdon et al., 2007). It has also been noted that changing its name did away with descriptions of patients as 'maniacs' (Stephens, date unknown), a more clearly stigmatising term.

Despite this, there have been no studies which have explored the effect of this name change on public beliefs and attitudes. As the term bipolar disorder has been in use for over 30 years, addressing this question would elucidate the degree of iatrogenic stigma as opposed to stigma associated with the construct itself. This is because 'bipolar disorder' will have had sufficient time to have developed the same stereotypes as 'manic depression', if this were to be the case. This would overcome one of the core problems with existing research in this area.

1.2.2. Renaming Schizophrenia

Proposals to rename schizophrenia to help reduce stigma have been met with conflicting opinions (e.g. Levin, 2006; Lieberman & First, 2007; van Os, 2009a). It has been argued that changing the name would help reduce iatrogenic stigma, as the term schizophrenia can be argued to be stigma-inducing by itself because it refers to a 'disease' that is characterised by a 'split-mind', and thus induces fear and avoidance (van Os, 2009a). It was for these reasons that in 2002, The Japanese Society of Psychiatry and Neurology decided to change their term for schizophrenia from 'split-mind-disease' to 'integration disorder'. A number of studies have reported a positive shift in public attitudes and clinical practice as a result (Sato, 2006; Sugiura, Sakamoto, Tanaka, Tomoda, & Kitamura, 2001; Takahashi et al., 2009). They have reported a decrease in endorsement of the stereotype of 'criminal' (Takahashi et al., 2009), and an increase in the percentage of people informed of their diagnosis, with 86% of psychiatrists believing the new term to have been effective in reducing stigma (Sato, 2006). As this change is still relatively recent, though, it remains unclear whether a new stereotype will develop over time.

Those who oppose the renaming of schizophrenia argue that the root cause of stigma is the public's ignorance and fear of persons with mental illness (Lieberman & First, 2007). This is in line with others who propose that better education, not a name change, is what is necessary (Ahuja, 2007; Chakraborti, 2007). This is supported by a study carried out in China in 2004 which found that presenting vignettes with different terms for schizophrenia did not have an effect on social distance, stereotypes or attributions towards the person depicted (Chung & Chan, 2004). However, their college student sample in general showed a low desire for social distance and disagreed with common stereotypes for schizophrenia, raising questions regarding the generalisability of their findings. Overall, given that there are very limited data to support either position with regard to schizophrenia, further evidence is requited to inform the debate.

The proposed study aims to address the gaps in the literature for both bipolar disorder and schizophrenia. It will compare 1) the term 'manic depression' to the term 'bipolar disorder' and 2) the term 'schizophrenia' to the term 'integration disorder' on a number of aspects of public stigma. Exploring the effect of labelling in bipolar disorder and schizophrenia simultaneously allows comparison between the long term and the short term implications of renaming, resulting in a more comprehensive understanding of its consequences.

There have been a number of proposals regarding which term is best suited to replace schizophrenia, including 'neuro-emotional integration disorder' (Levin, 2006), 'salience syndrome' or 'salience deregulation syndrome'(van Os, 2009a, 2009b), 'dopamine deregulation disorder' (Lieberman & First, 2007), and 'integration disorder' (Sato, 2006). DSM-5 has not yet made a decision to adopt any of these and 'integration disorder' is the only term that has been subject to national and international

consultations and derived in collaboration with the World Psychiatric Association Programme against the Stigmatisation of Schizophrenia (Kim, 2002). 'Integration disorder' was therefore chosen as the comparison in the present study.

1.3. Objectives

This study addressed gaps in the evidence on mental illness stigma regarding public beliefs and attitudes towards bipolar disorder and how they compare to schizophrenia, and concerning the effect of renaming disorders on stigma.

1) What are public beliefs about and attitudes towards bipolar disorder, with regard to causal beliefs, beliefs about prognosis, stereotypes, emotional reactions, and social distance? Is the relationship between stereotypes and social distance mediated by emotional reactions?
2) Are bipolar disorder and schizophrenia viewed similarly regarding the above aspects of stigma? Do socio-demographic characteristics and familiarity with mental illness have similar effects on social distance towards bipolar disorder and schizophrenia?
3) Do responses to bipolar disorder and schizophrenia change depending on the label used? Specifically, is there a difference in causal beliefs, beliefs about prognosis, stereotypes, emotional reactions, and social distance when comparing the label 'bipolar disorder' to 'manic depression' and the label 'schizophrenia' to 'integration disorder'?

2. Method

2.1. Participants

The sample comprised of 1621 UK residents of working age (16 years and over). Socio-demographic characteristics of the sample are presented in Table 1 (this

information was not available for 147 participants). The mean age of participants was 33 years (*SD* = 13.44). Previous contact with people with bipolar disorder was reported more frequently than with people with schizophrenia. The sample was predominantly female, White British, and educated to degree level.

Table 1

Socio-demographic Characteristics of the Sample (n =1474)

	%
Gender	
Male	29.3
Female	70.7
Ethnicity	
White British	75.8
White Other	13.4
Black African / Black Caribbean	2.7
Asian	5.1
Other	2.9
Religion	
Religious	45.1
Non-religious / Atheist / Agnostic	54.9
Education	
Degree	75.2
No Degree	24.8
Occupation	
Student[a]	30.0
Not student	70.0
Contact with bipolar disorder	
Yes	43.6
No	56.4
Contact with schizophrenia	
Yes	28.0
No	72.0

Note. [a] includes A-level students.

2.2. Procedure

Participants were recruited to the study using two forms of incentivised recruitment. An incentivised form of snowballing was used (Gardner, 2009), which involved the initial email circulation of study details by the researcher including a request to pass on the information to other people. A £25 cash incentive was given to the two people who recruited the largest number of participants into the study. All participants were also given the option to enter into a prize draw to win £100 of vouchers. All questionnaires were completed via an online survey hosted by Opinio. The study was also advertised on the social networking site Facebook.

The response rate, calculated as the proportion of respondents who completed the survey after reading the information sheet, was 79.7%. The use of snowballing meant that it is not possible to calculate a response rate based on the proportion of participants who were invited to the study. Of the total 1621 respondents who completed the survey, 1474 completed all questions and a further 147 completed all questions for at least one disorder. Respondents who had not completed all questions for at least one disorder were excluded from the study (n = 70).

2.3. Design

This study utilised an experimental randomised cross-sectional design. Each participant received two vignettes (Appendix C), one met diagnostic criteria for bipolar disorder and was labelled either bipolar disorder (BP) or manic depression (MD), and the other met diagnostic criteria for schizophrenia and was labelled either schizophrenia (SZ) or integration disorder (INT). Label pairing and presentation order were counterbalanced to ensure any effects resulting from these were controlled for. There were four possible label pairings: 1) BP and SZ; 2) BP and INT; 3) MD and SZ; and 4)

MD and INT, resulting in eight possible groups when presentation order is also counterbalanced. Participants were randomly allocated to one version of the survey via a website programmed for this purpose.

Both vignettes were adapted from existing vignettes in the field. The schizophrenia vignette closely followed research by Angermeyer et al. (2004) and Jorm et al. (1997); the bipolar disorder vignette closely followed research by Wolkenstein and Meyer (2008), but was adapted to make it representative of someone with bipolar disorder, as opposed to exclusively mania. Both vignettes were adapted to ensure the language was suitable for a UK population, they met DSM-IV (American Psychiatric Association, 1994) and International Classification of Diseases (ICD-10; World Health Organisation, 1992) diagnostic criteria for the respective disorder, and were of a similar length. Both vignettes were reviewed by five experts (consultant psychiatrists and clinical psychologists) for the purpose of blind diagnostic allocation, and to ensure they were deemed representative of someone presenting with the target disorder and of equal severity to each other.

After being presented with each vignette, respondents completed a series of questionnaires that covered various aspects of public stigma, socio-demographic characteristics and familiarity with mental illness. A copy of the full questionnaire pack can be found in Appendix D. To assess for the possibility that respondents already knew the 'correct' or alternative name for the disorder depicted, participants were asked whether they had heard of a different term to describe the respective condition.

2.4. Measures

All measures described below were rated on a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree).

2.4.1. Causal Beliefs

Items on causal beliefs were drawn from a number of studies. While there is broad agreement in the literature about the factors which causal beliefs map onto (biomedical, environmental or psychosocial, psychological or intra-psychic, and religion or fate) (Angermeyer & Matschinger, 2003b; Furnham & Anthony, 2010; Jorm, 2000; Nieuwsma & Pepper, 2010; Scior & Furnham, 2011) for the purpose of the current study it was not deemed appropriate to adopt items used in any of these studies as a whole. This is due to 1) the intelligibility of some items used in these studies to an educationally and culturally diverse UK audience, and 2) there is disagreement between studies as to which factor some items load. Thus, unintelligible items were either omitted or adapted, and items showing the most cross loadings in the studies cited above were removed. Respondents rated their agreement with 17 statements which were expected to map onto four subscales (biomedical, environmental or psychosocial, psychological, and fate).

The 17 causal items were examined for their psychometric properties and fit with the proposed factor structure. None of the items were highly correlated ($r > .90$), suggesting that the measure assessed interrelated yet distinct concepts. An exploratory principal components analysis was carried out. This, together with examination of the scree plots, suggested that a three-factor solution was optimal for beliefs about the causes of bipolar disorder and schizophrenia. A second analysis forcing a three-factor solution obtained through oblique rotation (Direct Oblimin) was used for development of the final scale. Oblique rotation was used as factors were significantly correlated (between $r = .05$ and $r = .34$).

The KMO statistic indicated that the sample size was good for the purposes of these analyses, KMO > .82. All values were ≥ .71 except for three which were ≥ .65,

which is above the acceptable limit of .50 (Field, 2009). After rotation, items with loadings < .50 for either vignette on the same factor were not retained. These were 'taking illegal drugs' and 'being from a single parent family'. Items which were expected to load onto a fourth 'psychological' factor instead predominantly mapped onto a 'psychosocial' factor, with one item 'lack of willpower' loading onto a 'fate' factor. The first factor (psychosocial) contained seven items and accounted for 29.4% of the variance in the bipolar disorder vignette and 29.8% of the variance in the schizophrenia vignette. The second factor (fate) contained five items and accounted for 16.72% of the variance in the bipolar disorder vignette and 14.63% of the variance in the schizophrenia vignette. The third factor (biomedical) contained three items and accounted for 11.21% and 11.6% of the variance in the bipolar disorder and schizophrenia vignette respectively. Appendix E shows the rotated factor matrix for the final 15 items.

Cronbach's alpha's for both vignettes were good, with the exception of the 'biomedical' subscale which was acceptable. Cronbach's alpha's for bipolar disorder were: α = .87 for psychosocial, α = .71 for fate, and α = .65 for biomedical; for schizophrenia they were: α = .88 for psychosocial, α = .73 for fate, and α = .64 for biomedical.

2.4.2. Prognosis

Items on prognosis replicated those used by Furnham and Wardley (1991). Participants rated how likely they thought it was the person would recover, both without treatment as well as under optimal treatment.

2.4.3. Emotional Reactions

Emotional reactions were measured using the Emotional Reaction to Mental Illness Scale (ERMIS) (Angermeyer, Buyantugs, Kenzine, & Matschinger, 2004;

Angermeyer, Holzinger, & Matschinger, 2010; Angermeyer & Matschinger, 2003b); an English translation by the authors of the original German measure was adapted by my supervisor, a native German speaker, to reflect everyday British English. The scale consists of nine items, which are consistently found to map onto three main types of emotional response: fear, pity and anger. Reliability analyses were conducted to assess the application of this measure to bipolar disorder and schizophrenia and the present UK sample. The internal consistency for each subscale was found to be good for both vignettes, with the exception of the 'pity' subscale in the schizophrenia vignette which was acceptable. Cronbach's alpha's for bipolar disorder were: α = .78 for fear, α = .71 for pity, and α = .78 for anger; for schizophrenia they were α = .79 for fear, α = .62 for pity, and α = .71 for anger. In line with Connolly, Williams and Scior (in press), the 'pity' subscale was renamed 'compassion' as it in fact measures positive, emphatic responses.

2.4.4. Stereotypes

Stereotypes were measured using the Personal Attributes Scale (PAS) (Angermeyer et al., 2004). The scale has eight items which cover two important components of the stereotype of mental illness: perceived dangerousness and perceived dependency. A third stereotype of 'intelligence/creativity' was measured using three items adapted from Angermeyer and Matschinger (2004).

As these additional items relating to 'intelligence/creativity' were added to the PAS, the 11 items were examined for their psychometric properties and fit with the scale's factor structure. None of the items were highly correlated (r >.9), suggesting that the measure assessed interrelated yet distinct concepts. An exploratory principal components analysis was carried out. Oblique rotation (Direct Oblimin) was used for

development of the final scale as the factors were significantly correlated (between $r = .1$ and $r = .46$).

The KMO statistic indicated that the sample size was good for the purposes of these analyses, KMO > .73. All values were ≥ .72 except for three which were ≥. .61, which is above the acceptable limit of .50 (Field, 2009). Together with examination of the scree plots, a three-factor solution was optimal for stereotypes of bipolar disorder and schizophrenia. After rotation, no items had factor loadings < .5. The first factor (dangerousness) had five items and accounted for 30.76% of the variance in the bipolar disorder vignette and 33.4% of the variance in the schizophrenia vignette. The second factor (dependency) had three items and accounted for 10.83% of the variance in the bipolar disorder vignette and 11.1% of the variance in the schizophrenia vignette. The third factor (intelligence/creativity) had three items and accounted for 22.6% of the variance in the bipolar disorder vignette and 21.3% of the variance in the schizophrenia vignette. Appendix F shows the rotated factor matrix for the PAS items.

Cronbach's alpha's for both vignettes were good to very good, with the exception of the 'dependency' subscale, which was acceptable. Cronbach's alpha's for bipolar disorder were: $\alpha = .77$ for dangerousness, $\alpha = .69$ for dependency, and $\alpha = .87$ for intelligence/creativity; for schizophrenia they were: $\alpha = .84$ for dangerousness, $\alpha = .63$ for dependency, and $\alpha = .87$ for intelligence/creativity.

2.4.5. Behaviour

One of the most frequently used measures of behavioural intentions (discrimination) is the desire for social distance. Items on social distance replicated the four items used by Scior and Furnham (2011). Participants rated their willingness to have contact with the person in the vignette in situations of increasing intimacy. In line

with Link et al.'s (1999) study, a fifth item relating to being a colleague of someone with the disorder was also included. Reliability analyses were conducted to assess the application of this measure to bipolar disorder and schizophrenia and the present UK sample. Cronbach's alpha's were excellent for bipolar disorder (α = .91) and schizophrenia (α = .92). To aid interpretation, a social distance score was calculated as a mean of reversed responses, with higher scores indicating a stronger desire for social distance.

2.4.6. Familiarity with Mental Illness

After being presented with both vignettes, participants were asked whether they had ever had contact with anyone with a diagnosis of bipolar disorder or schizophrenia. These responses were coded dichotomously 'prior contact' or 'no prior contact'.

2.4.7. Socio-demographic Characteristics

Information was collected regarding participants' gender, age, educational attainments (coded as 'degree' or 'no degree'), ethnicity (coded as 'white' or 'BME', with those who selected 'other' excluded from the analysis pertaining to ethnicity), and religion (coded as 'religious', to denote those who identified with any religion, see Appendix D, or 'non-religious').

2.5. Power Analysis

The required sample size was calculated for the analysis comparing bipolar disorder and schizophrenia. Due to the study's design, this analysis could only use a quarter of the total sample and was therefore chosen as the most conservative estimate. G*Power 3.1.3 program (Faul, Erdfelder, Lang, & Buchner, 2007) was used to calculate power with alpha set at 5% and desired power of 80%. Assuming a medium effect size of d = 0.5 in line with similar previous studies (Link, Phelan, Bresnahan, Stueve, &

Pescosolido, 1999; Wolkenstein & Meyer, 2008), to carry out a paired samples t-test between the two disorders would require 34 participants, leading to a minimum total sample of 136.

2.6. Ethical Considerations

This study was approved by the University College London Ethics committee of the Division of Psychology and Language Sciences (Project ID number: CEHP/2012/012, see Appendix G). An information sheet served as the consent form and cover sheet for the survey (Appendix D). It explained the purpose and content of the study and if the participant, having read the information sheet, proceeded to complete the questionnaire this was taken as their consent to the study. Participants were not required to provide contact details but could do so if they wished to participate in the prize draw or incentivised sampling. Upon receipt of the questionnaires their personal details were immediately separated from their responses and stored in a separate, password protected file. All questionnaire data were stored anonymously.

2.7. Statistical Analysis

Data were analysed using SPSS version 19. To ensure randomisation resulted in random groups, ANOVAs and chi-squared tests were conducted between the eight groups on all demographic variables (age, gender, ethnicity, religion, education, and familiarity) which revealed no significant differences between the groups (Appendix H).

In order to avoid the impact of extreme values, outliers (scores with absolute *z*-scores > ±3.29) were converted to scores with a *z* score of ±3.29 (Field, 2009). This resulted in changes to scores in the ERMIS and in the causal beliefs scale. Exploration of the data revealed that the fear subscale of the ERMIS was positively skewed in the bipolar disorder vignette, and that the anger subscale was positively skewed in both

vignettes. The fate causal belief subscale also showed significant positive skewness in both vignettes. Both prognosis items were skewed in both vignettes, with prognosis without treatment showing a positive skew and prognosis under optimal treatment showing a negative skew. These distributions were not improved by transforming the data, and therefore all analyses with these subscales were performed with bootstrapping. This method derives robust estimates of standard errors and confidence intervals, and is also used for constructing hypothesis tests, when parametric assumptions have been violated. Unless otherwise specified, all bootstrapped results are based on 1000 samples with 95% percentile confidence intervals (CI).

As the majority of questionnaires contained multiple factors and therefore required multiple tests, all p-values were Bonferroni corrected for tests carried out within each questionnaire.

Fluctuations in the numbers of participants and degrees of freedom throughout the analyses arise because some participants did not complete all the measures.

3. Results

3.1. Public Beliefs about and Attitudes towards Bipolar Disorder

In other areas of stigma research, it has been suggested that high scores can be defined as above the midpoint of the possible range (Ritsher & Phelan, 2004). In the case of all measures used in this study, the midpoint is 4 (range 1-7) and higher scores represent greater endorsement of that variable. Only participants who received the bipolar disorder label were included in the analysis (n = 753-761); those given the manic depression label were excluded.

Both biomedical and psychosocial causes were endorsed for bipolar disorder, with the most highly endorsed being biomedical causes (M = 5.25, SD = 1.18), followed by psychosocial (M = 4.23, SD = 1.32). Fate causes were endorsed to a very small extent (M = 1.55, SD = 0.75). Bipolar disorder was thought to have a poor prognosis without treatment (M = 2.19, SD = 1.13) and a good prognosis under optimal treatment (M = 5.83, SD = 1.04). The predominant emotional reaction towards bipolar disorder was compassion (M = 5.03, SD = 1.23), while fear (M = 2.29, SD = 1.2) and anger (M = 2.20, SD = 1.22) were low. The predominant stereotype associated with bipolar disorder was one of intelligence and creativity (M = 4.01, SD = 1.34), although this score was only marginally above the mid-point. The stereotypes of dangerousness (M = 3.56, SD = 1.06) and dependency (M = 3.39, SD = 1.26) were endorsed to a lower extent. The public showed a low desire for social distance towards people with bipolar disorder (M = 3.46, SD = 1.37).

3.1.1. The Role of Emotional Reactions in Mediating the Relationship between Stereotypes and Desire for Social Distance in Bipolar Disorder

To determine whether emotional reactions mediated the relationship between stereotypes and social distance in bipolar disorder, bootstrapping analyses were conducted in line with Preacher and Hayes' (2008) procedures for estimating direct and indirect effects with multiple mediators. Only participants who received the bipolar disorder label were included in this analysis (n = 753); those given the manic depression label were excluded. The magnitude of the total effect of the stereotypes of dangerousness and dependency on social distance reduced from .43, $p < .001$ to a direct effect of .30, $p < .001$ for dangerousness, and from .32, $p < .001$ to a direct effect of .29, $p < .001$ for dependency, when emotional reactions as mediators were included in the

analysis, see Figure 1. The total indirect effect of dangerousness on social distance through emotional reactions mediators was significant, with a point estimate of .12, $p <$ .001 and a 95% bias-corrected and accelerated (BCa) bootstrap CI of .06 to .18. The total indirect effect of dependency on social distance was not significant, with a point estimate of .03, $p = .16$ and a 95% BCa bootstrap CI of -.01 to .07. Emotional reactions, therefore, partially mediated the relationship between the stereotype of dangerousness and social distance, but did not play a mediating role for the stereotype of dependency.

Preacher and Hayes (2008) recommend investigating the specific indirect effects of each proposed mediator whether the total indirect effect is significant or not. These are therefore reported for both stereotypes. For both dangerousness and dependency, fear, with a point estimate of .16, $p <$ .001 for dangerousness, and a point estimate of .09, $p <$ .001 for dependency, was a significant mediator. Compassion, with a point estimate of -.02, $p = .03$ for dangerousness, and a point estimate of -.06, $p <$ .001 for dependency, was also a significant mediator, with a stronger effect for dependency than for dangerousness. Thus, both stereotypes appeared to exert effect on social distance by increasing fear, which increased social distance, while simultaneously increasing compassion, which reduced social distance. Anger, with point estimates of -.01 for both dangerousness and dependency, did not significantly add to the model for either stereotype. The overall model for dangerousness explained 20% of the variance in social distance, while the model for dependency explained 22%.

The non-significant total indirect effect of dependency on social distance through emotional reactions mediators is therefore due to the model containing both a mediating effect and a suppression effect, with fear having a mediating effect (with it increasing desire for social distance) and compassion a suppression effect (with it reducing desire

for social distance) (MacKinnon, Krull, & Lockwood, 2000; Preacher & Hayes, 2008). The suppressive effect of compassion on the effect of dangerousness on social distance was smaller, thus the sum of indirect effects remained significant.

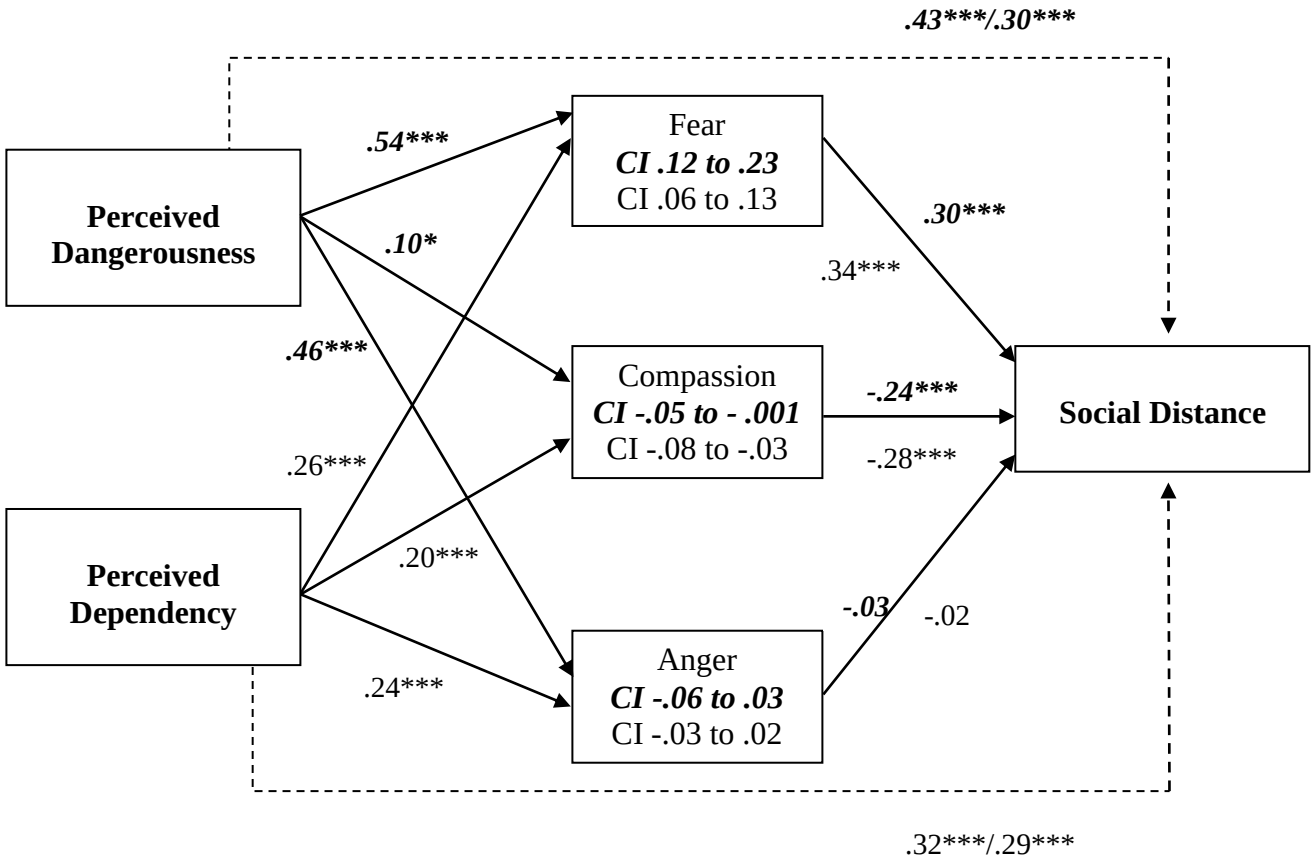

Figure 1. Mediation model for the relationship between stereotypes, emotional reactions and social distance. Path values represent unstandardised regression coefficients. All confidence intervals reported are 95% BCa bootstrap CIs. Numbers in bold italics relate to dangerousness. n = 753.

*p < .05, **p < .01, ***p < .001.

3.2. The Difference between Public Beliefs and Attitudes towards Bipolar Disorder and Schizophrenia

To determine whether bipolar disorder and schizophrenia differ in the degree of public stigma they elicit, paired-sample t-tests were conducted on only those participants who received the label bipolar disorder and the label schizophrenia together (n = 411).

Schizophrenia was attributed to biomedical causes more than bipolar disorder $t(387) = -4.04$, $p < .001$, $d = 0.14$, see Table 2. There was no difference between the two disorders with regard to psychosocial causes $t(387) = 2.26$, $p = .07$ or fate causes $t(387) = 1.43$, $p = .39$. Bipolar disorder was judged to have a better prognosis than schizophrenia, both without treatment $t(386) = 11.36$, $p < .001$, $d = 0.58$, and under optimal treatment $t(386) = 4.22$, $p < .001$, $d = 0.22$. Participants reacted with more fear $t(387) = -15.59$, $p = .003$, $d = 0.81$, more compassion $t(387) = -9.40$, $p < .001$, $d = 0.31$, and less anger $t(387) = 7.5$, $p = .003$, $d = 0.40$, towards schizophrenia than towards bipolar disorder. The stereotypes of dangerousness was ascribed more to schizophrenia than to bipolar disorder $t(383) = -10.34$, $p < .001$, $d = 0.54$, as was the stereotype of dependency $t(383) = -4.84$, $p < .001$, $d = 0.23$. The stereotype of intelligence and creativity was ascribed more to bipolar disorder than to schizophrenia $t(383) = 6.14$, $p < .001$, $d = 0.30$. There was a greater desire for social distance towards schizophrenia than towards bipolar disorder $t(381) = -16.33$, $p < .001$, $d = 0.64$.

All p-values reported for fate causal beliefs, prognosis, fear and anger are bootstrapped.

Table 2

Causal beliefs, Prognosis, Emotional Reactions, Stereotypes and Social Distance for Bipolar Disorder and Schizophrenia: Means and Standard Deviations

	Bipolar Disorder			Schizophrenia		
	N	*M*	*SD*	*N*	*M*	*SD*
Causal beliefs						
Psychosocial	388	4.26	1.32	382	4.13	1.31
Biomedical	388	5.30	1.22	382	5.47	1.16
Fate	388	1.53	0.71	382	1.49	0.70
Prognosis						
Without treatment	387	2.21	1.11	387	1.63	0.87
Under optimal treatment	387	5.82	1.04	387	5.59	1.05
Emotional reactions						
Fear	388	2.34	1.20	388	3.40	1.41
Compassion	388	5.07	1.23	388	5.57	1.05
Anger	388	2.28	1.23	388	1.88	0.95
Stereotypes						
Dangerousness	384	3.57	1.00	384	4.17	1.20
Dependency	384	3.45	1.20	384	3.74	1.32
Intelligence/Creativity	384	4.10	1.38	384	3.72	1.24
Social Distance	382	3.44	1.41	382	4.35	1.44

3.2.1 Predictors of Social Distance in Bipolar Disorder and Schizophrenia

To determine whether socio-demographic characteristics and familiarity with mental illness predicted social distance towards bipolar disorder and schizophrenia, multiple regression analyses were carried out on only those participants who received the respective labels (n = 682 for bipolar disorder; n = 701 for schizophrenia).

Age, gender, ethnicity (coded as ‘white’ or ‘BME’), religion, education, and contact were entered as predictors into a multiple linear regression to predict desire for

social distance, for each vignette separately. The assumption of no multicollinearity, linearity, and homoscedasticity were met. No cases were found to have undue influence on the regression model.

For bipolar disorder, only religion $t(675) = 3.45$, $p = .001$ and contact $t(675) = -5.03$, $p < .001$ were significant predictors of social distance, see Table 3. Religious participants showed an increased desire for social distance, whereas those with prior contact with someone with bipolar disorder showed a reduced desire for social distance. The model accounted for 6.6% of the variance in social distance, $r^2 = .066$, $F(6,675) = 7.93$, $p < .001$.

For schizophrenia, only age $t(694) = 2.37$, $p = .02$ and contact $t(694) = -6.1$, $p < .001$ were significant predictors, see Table 3. Advancing age was associated with increased desire for social distance, whereas prior contact with someone with schizophrenia was associated with reduced desire for social distance. The model accounted for 6.5% of the variance in social distance, $r^2 = .065$, $F(6,694) = 8.06$, $p < .001$. Of note, contact was the strongest predictor of social distance for both disorders.

Table 3

Predictors of Social Distance in Bipolar Disorder and Schizophrenia: Results of Multiple Linear Regression Analyses

	Bipolar Disorder			Schizophrenia		
	B (SE)	Beta	95% CI	B (SE)	Beta	95% CI
Constant	3.43 (.19)***		3.05 to 3.80	4.11 (.20)***		3.72 to 4.50
Age	0.01 (.004)	0.07	0.00 to 0.02	0.01 (.004)*	0.10	0.002 to 0.02
Gender	-0.08 (.11)	-0.03	-0.30 to 0.15	-0.06 (.12)	-0.02	-2.29 to 0.17
Ethnicity	0.09 (.21)	0.02	-0.32 to 0.50	0.17 (.12)	0.03	-0.22 to 0.56
Religion	0.36 (.10)**	0.13	0.16 to 0.57	0.19 (.12)	0.07	-0.02 to 0.40
Education	-0.10 (.12)	-0.03	-0.33 to 0.14	0.18 (.13)	0.05	-0.07 to 0.42
Contact	-0.52 (.10)***	-0.19	-0.73 to -0.32	-0.74 (.12)***	-0.23	-0.97 to -0.50

Note. Coding for categorical variables was as follows: Gender: 0 = male, 1 = female; Ethnicity: 0 = white, 1 = BME; Religion: 0 = non-religious, 1 = religious; Education: 0 = no degree, 1 = degree; Contact: 0 = no contact, 1 = contact.
*$p < .05$, **$p < .01$, ***$p < .001$.

3.3. The Impact of Different Diagnostic Labels on Public Beliefs and Attitudes towards Bipolar Disorder and Schizophrenia

To assess the influence of different diagnostic labels on public beliefs and attitudes, the label 'bipolar disorder' was compared to the label 'manic depression' and the label 'schizophrenia' was compared to the label 'integration disorder' on all domains of public stigma. Between-subjects t-tests were conducted for each vignette separately. To determine whether knowing the correct or alternative name for the label influenced the effect of diagnostic label, this analysis was repeated among the subset of participants who did not correctly identify the correct or alternative name (n = 898 for bipolar disorder; n = 1256 for schizophrenia).

Table 4 outlines the effect of different diagnostic labels for the whole sample and for the subset of participants who did not correctly identify the alternative label. The effect of different diagnostic labels was not much greater in the sample who did not correctly identify the alternative label, with effect sizes only marginally increasing for some dependent variables. Unexpectedly, for some aspects of stigma, the effect of label was smaller among participants who did not correctly identify the alternative label. The findings from the whole sample will be reported, as this is thought to have greater ecological validity given that in the 'real world' some people will know that a disorder has been renamed and others will not.

All p-values reported for the fate causal belief, prognosis, anger, and fear (in bipolar disorder vignette only), are bootstrapped.

Table 4

Effect of Different Diagnostic Labels for Bipolar Disorder and Schizophrenia in the Whole Sample and in Participants who Did Not Correctly Identify the Alternative Label

	Bipolar Disorder				Schizophrenia			
	Whole sample		Did not correctly identify alternative label		Whole sample		Did not correctly identify alternative label	
	t	*d*	*t*	*d*	*t*	*d*	*t*	*d*
Causal beliefs								
Psychosocial	-3.20**	0.16	-2.87**	0.20	-2.95**	0.14	-3.23**	0.20
Biomedical	6.62***	0.20	-3.57***	0.24	0.94*	0.13	-4.39***	0.22
Fate	-2.67*	0.14	-2.24	_	1.83	_	3.79**	0.26
Prognosis								
Without treatment	-0.71	_	-0.30	_	0.99	_	-1.39	_
Under optimal treatment	0.46	_	0.91	_	0.05	_	-0.52	_
Emotional reactions								
Fear	-2.71*	0.14	-2.75*	0.20	0.20	_	-0.03	_
Compassion	0.38	_	0.82	_	1.04	_	2.02	_
Anger	0.16	_	-0.44	_	-0.73	_	-1.71	_
Stereotypes								
Dangerousness	0.87	_	0.48	_	2.92**	0.15	1.56	_
Dependency	-2.20	_	-2.81*	0.20	1.07	_	0.24	_
Intelligence/Creativity	0.40	_	1.42	_	1.92	_	1.18	_
Social Distance	-3.09**	0.16	-2.32*	0.16	-2.48*	0.13	-3.24**	0.20

Note. Bipolar Disorder: n = 1569-1579; did not correctly identify the alternative label n = 898. Schizophrenia: n = 1566-1578; did not identify correct label n = 1256. Whole sample: df = 1564-1578; did not correctly identify alternative label: df = 896-1254.
*p < .05, **p < .01, ***p < .001.

3.3.1. The Label Bipolar Disorder vs. the Label Manic Depression

There was a significant difference between the two labels on all causal beliefs, with psychosocial causes being ascribed more to the label manic depression than to the label bipolar disorder, $t(1578) = -3.2$, $p = .001$, $d = 0.16$, see Table 5; biomedical causes being ascribed more to the label bipolar disorder than to the label manic depression $t(1577) = 3.62$, $p < .001$, $d = 0.20$; and fate causes being ascribed more to the label manic depression than to the label bipolar disorder $t(1778) = -2.67$, $p = .03$, $d = 0.14$. There was also a main effect of label on fear and desire for social distance. The label manic depression elicited more fear than the label bipolar disorder $t(1578) = -2.71$, $p = .02$, $d = 0.14$. The label manic depression also elicited a greater desire for social distance than the label bipolar disorder $t(1567) = -3.09$, $p = .002$, $d = 0.16$.

There was no difference between the two labels on prognosis without treatment $t(1576) = -0.71$, $p = 0.94$ or under optimal treatment $t(1576) = 0.46$, $p = 1.24$; compassion $t(1578) = 0.38$, $p = 2.10$ or anger $t(1578) = 0.16$, $p = 2.61$; or on the stereotypes of dangerousness $t(1571) = 0.87$, $p = 1.14$, dependency $t(1571) = -2.28$, $p = .07$, or intelligence and creativity $t(1571) = 0.40$, $p = 2.04$.

3.3.2. The Label Schizophrenia vs. the Label Integration Disorder

There was a difference between the two labels on psychosocial and biomedical causal beliefs, with psychosocial causes being ascribed more to the label integration disorder than the label schizophrenia $t(1576) = -2.95$, $p = .009$, $d = 0.14$, see Table 5; and biomedical causes being ascribed more to the label schizophrenia than to the label integration disorder $t(1576) = 0.94$, $p = .04$, $d = 0.13$. There was also a difference between the two labels on the stereotype of dangerousness and desire for social distance. Attributions of dangerousness were ascribed more to the label schizophrenia than to the

label integration disorder $t(1568) = 2.92$, $p = .008$, $d = 0.15$. Conversely, the label integration disorder elicited a greater desire for social distance than the label schizophrenia $t(1564) = -2.48$, $p = .01$, $d = 0.13$.

There was no difference between the two labels on fate causal beliefs $t(1576) = -1.83$, $p = .19$; prognosis without treatment $t(1576) = 0.99$, $p = .74$ or under optimal treatment $t(1576) = 0.05$, $p = 1.92$; fear $t(1576) = 0.20$, $p = 2.49$, compassion $t(1576) = 1.04$, $p = .90$, or anger $t(1576) = -0.73$, $p = 1.41$; or on the stereotypes of dependency $t(1568) = 1.07$, $p = .84$, or intelligence and creativity $t(1568) = 1.92$, $p = .16$.

Table 5

Effect of Different Diagnostic Labels for Bipolar Disorder and Schizophrenia: Means and Standard Deviations

	Bipolar Disorder				Schizophrenia			
	Bipolar Disorder		Manic Depression		Schizophrenia		Integration Disorder	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Causal beliefs								
Psychosocial	4.22	1.31	4.43	1.28	4.11	1.32	4.29	1.22
Biomedical	5.25	1.18	5.01	1.29	5.39	1.18	5.24	1.17
Fate	1.54	0.75	1.65	0.84	1.53	0.75	1.60	0.82
Prognosis								
Without treatment	2.19	1.13	2.23	1.15	1.64	0.88	1.68	0.90
Under optimal treatment	5.83	1.04	5.81	1.06	5.56	1.07	5.56	1.10
Emotional reactions								
Fear	2.29	1.17	2.46	1.26	3.31	1.44	3.29	1.45
Compassion	5.03	1.23	5.00	1.22	5.58	1.03	5.53	1.04
Anger	2.20	1.22	2.19	1.21	1.88	0.97	1.91	0.99
Stereotypes								
Dangerousness	3.55	1.06	3.51	1.09	4.16	1.24	3.98	1.24
Dependency	3.40	1.26	3.52	1.25	3.73	1.31	3.66	1.28
Intelligence/Creativity	4.01	1.34	3.98	1.31	3.73	1.25	3.61	1.24
Social Distance	3.46	1.36	3.68	1.40	4.43	1.44	4.61	1.43

4. Discussion

This study aimed to explore public beliefs and attitudes towards bipolar disorder and how these compare to schizophrenia, and the effect of presenting different diagnostic labels on stigma. The key findings are as follows: 1) bipolar disorder was believed to have predominantly biomedical causes and a good prognosis with treatment. It was associated with positive emotional reactions and stereotypes, with a compassionate response and a belief that people with bipolar disorder are intelligent and creative emerging as most prominent. It elicited a low desire for social distance. 2) Fear partially mediated the relationship between attributions of dangerousness and dependency and desire for social distance for bipolar disorder. 3) Bipolar disorder was less stigmatised than schizophrenia, although it elicited less compassion and more anger. 4) Public attitudes towards bipolar disorder were negatively associated with religiosity, while attitudes towards schizophrenia were negatively associated with older age. Contact was positively associated with attitudes for both disorders. 5) The influence of different diagnostic labels on stigma appears complex. The label 'bipolar disorder' was associated with less stigma on some attitudinal domains, with it reducing fear and desire for social distance. The label 'integration disorder' had mixed effects, with it reducing endorsement of the stereotype of dangerousness whilst simultaneously increasing desire for social distance.

4.1. Public Beliefs and Attitudes towards Bipolar Disorder

The more pro-social beliefs and reactions identified towards bipolar disorder are consistent with research suggesting bipolar disorder may be associated with positive attributions (Day et al., 2007; Stip et al., 2006; Sugiura et al., 2000; Wolkenstein & Meyer, 2008). The belief that people with bipolar disorder tend to be

intelligent and creative is supported by evidence that a disproportionate number of people with this diagnosis are creative, have above average intelligence, and are high achievers (Jamison, Gerner, Hammen, & Padesky, 1980; Johnson, 2005; MacCabe et al., 2010). This may lend support to the controversial theory that stereotypes are based on *a kernel of truth* (Allport, 1979), where objective aspects of mental illness serve as the origin of these beliefs. The predominance of biomedical causal beliefs and optimism regarding prognosis with treatment suggests that the public's knowledge of bipolar disorder is broadly in line with the psychiatric evidence base (Bowden et al., 1994; Goodwin & Jamison, 2007). These finding are consistent with other research exploring knowledge of bipolar disorder (Furnham & Anthony, 2010; Stip et al., 2006), but are at odds with a large body of literature showing that psychosocial causes of mental illness are usually the most frequently endorsed by the general population (Angermeyer & Dietrich, 2006).

These findings may have implications for the reduction of internalised stigma in bipolar disorder. That is, the moderate to high degree of internalised stigma found in bipolar disorder (see Literature Review) may result from the internalisation of attitudes associated with schizophrenia or mental illness in general, which are generally more negative. Dissemination of these findings to people diagnosed with bipolar disorder may therefore be important to counter the risk of internalised stigma.

Attributions of dangerousness and dependency increased desire for social distance in bipolar disorder. Fear partially mediated this relationship for both stereotypes, and in line with research on schizophrenia and depression (Angermeyer & Matschinger, 2003a, 2003b) played a stronger role for dangerousness than dependency. These findings confirm that Corrigan's model of public stigma (Corrigan, 2000; Corrigan & Watson, 2002) holds true for bipolar disorder.

Consequently, any intervention aimed at reducing these attributions should also focus on reducing the fear that arises as a result of them, particularly beliefs about dangerousness. Alongside increasing fear, both beliefs also led to an increase in compassion, which had a competing effect on social distance. While this has been previously demonstrated for attributions of dependency, attributions of dangerousness about schizophrenia and depression have been found to decrease compassion (Angermeyer & Matschinger, 2003a, 2003b). This increase in compassion resulting from beliefs about dangerousness is marginal though, and this finding is in need of replication before hypotheses are made regarding the underlying mechanisms. It does nevertheless suggest that any intervention that reduces belief in dependency may inadvertently reduce compassionate reactions almost as much as it reduces fear. It is therefore important that interventions in bipolar disorder also focus on fostering beliefs that increase compassion, as opposed to solely aiming to reduce negative attributions, an idea echoed in literature on effective anti-stigma interventions (Heijnders & Van Der Meij, 2006). In line with other disorders (Angermeyer & Matschinger, 2003a, 2003b), there was no relationship between anger and social distance, suggesting this is not usefully targeted in interventions. Finally, it is important to note the relatively low endorsement of beliefs about dangerousness and dependency for bipolar disorder, although this finding needs replication before a decision is made not to address these attributions in anti-stigma interventions.

As noted in the introduction, bipolar disorder and schizophrenia are both considered within the category of 'functional psychoses' and have similar prevalence rates. Given these similarities, particularly regarding their association with psychotic symptoms, the difference in attitudes between them is stark. Arguably two of the

most important components of stigma showed the biggest effect sizes, with bipolar disorder eliciting considerably less fear (large effect size) and desire for social distance (medium effect size) than schizophrenia. These findings support the small body of research which have compared these disorders (Day et al., 2007; Stip et al., 2006; Sugiura et al., 2000), and a vast literature demonstrating the public's negative attitudes towards schizophrenia (see Angermeyer, 2006, for a review). Perhaps the public can relate to some symptoms of bipolar disorder, such as elevated or depressed mood, whereas this is not the case for schizophrenia. These findings may also reflect an improvement in attitudes towards bipolar disorder following the increased media coverage, documentaries, and celebrity disclosures, which started in the UK in about 2006. These may have had a positive effect on attitudes by facilitating increased exposure to the disorder whilst simultaneously increasing knowledge, two mechanisms known to improve attitudes (Heijnders & Van Der Meij, 2006). Bipolar disorder has also undergone a name change in the last 30 years; the present findings suggest the current term is associated with less negative perceptions than its predecessor, manic depression. No name change has occurred for schizophrenia, although this is a matter of continuing debate (Lieberman & First, 2007). Indeed, renaming coupled with education and positive media attention has been suggested as an effective approach to stigma reduction (Panek & Smith, 2005). Bipolar disorder elicited more anger and less compassion than schizophrenia. This may be party explained by the finding that biomedical beliefs were also endorsed more for schizophrenia, something which has been found to decrease anger and increase pity by reducing attributions of blame and controllability (Corrigan et al., 2000), in line with attribution theory (Weiner, 1980).

Prior contact was associated with reduced desire for social distance towards both disorders. This positive relationship is in line with numerous studies (see Jorm & Oh, 2009, for a review), but does not support the negative relationship between these variables found by Wolkenstein and Meyer (2009). Theories regarding the public's motivation for stigma may provide some tentative explanations for the negative effect religiosity had on social distance in bipolar disorder, as this has not yet been demonstrated in the literature. Ego-justification theories postulate that stigma results from attempts to protect self-esteem, whereby internal conflicts or ideas and behaviour that negatively reflect the self are projected onto the stigmatised group (Bettelheim & Janowitz, 1964; Freud, 1946). Given that religion is typically organised around moral values, any acknowledgments of one's own negative ideas or behaviours may be seen as more threatening to religious individuals' self-esteem than to those who are not religious. This finding is in need of replication before any clear conclusions can be drawn. The finding that older age is associated with increased desire for social distance in schizophrenia is well supported by the literature (Angermeyer & Dietrich, 2006). Whilst the amount of variance explained by both religiousness and age was small, it was equivalent to other studies which have explored these factors (Lauber et al., 2004; Twohig & Furnham, 1998).

4.2. Renaming Disorder and Stigma

The significant findings regarding different diagnostic labels all showed a small effect size at best, yet this may not be as meaningless as it first seems. *Time to Change* (www.time-to-change.org.uk), the UKs largest anti-stigma campaign, aims for a 5% change in self-reported attitudes over an eight year period. Since 2008, the campaign has demonstrated a 1.4% improvement on measures of attitudes and social distance (Evans-Lacko, Henderson, & Thornicroft, 2013). It is important to consider

the comparative percentage change found in the present study. In comparison to the label manic depression, bipolar disorder was associated with a 3% reduction in endorsement of psychosocial causes, a 3.4% increase for biomedical causes, a 1.6% decrease for fate causes, 2.4% less fear, and a 3.1% reduction in desire for social distance. In comparison to the label schizophrenia, integration disorder was associated with a 2.6% increase in endorsement of psychosocial causes, a 2.14% decrease for biomedical causes, a 2.6% decrease in attributions of dangerousness, and a 2.6% increase in social distance.

There are a number of possible explanations for the more positive attitudes associated with the label bipolar disorder. Firstly, the impact the label had on causal beliefs, increasing endorsement of biomedical causes while decreasing psychosocial and fate, could have been a driver of the positive change in fear and social distance. Attribution theory (Weiner, 1980) postulates that attributions of cause determine emotional and behavioural reactions. Endorsement of biomedical causal beliefs have been found to have a positive effect on stigma (Corrigan et al., 2000), while endorsement of fate causal beliefs have a negative effect (Mulatu, 1999).

Secondly, this may simply represent an effect of iatrogenic stigma. It has been argued that the label manic depression evokes descriptions of people as 'maniacs' (Stephens, date unknown), a clearly stigmatising term.

Thirdly, renaming may also have indirect effects on public stigma through the reduction of internalised stigma. With abolition of the label manic depression, people with the condition may have felt better able to reject negative stereotypes that accompanied it. Having a new un-stigmatised label with which to go forward may have promoted disclosure, which invariably increases contact between people with bipolar disorder and the general population. Indeed, this sample reported more

contact with people with bipolar disorder than people with schizophrenia, despite their similar prevalence (Cannon & Jones, 1996; Weissman et al., 1996). Renaming may have also given people an opportunity to educate those to whom they have disclosed regarding the nature of bipolar disorder, since people may have been less likely to assume they knew what characterised it.

Finally, positive media coverage and celebrity disclosures have primarily been attached to the label bipolar disorder, not manic depression. Whether the new term actually promoted these disclosures is unknown, but it may not be the name itself that reduced stigma but its subsequent associations. Yet there was no difference found between the two labels on beliefs about intelligence and creativity, the domain one might expect to differ if this was the case. The change in attitudes identified is likely to be a result of a combination of the above factors.

The findings for schizophrenia were more inconsistent. In addition to directly reducing stigma, another aim in the Japanese renaming of schizophrenia to the equivalent of integration disorder was to promote a biopsychosocial model of causality (Sato, 2006). In this study, integration disorder was ascribed more to psychosocial and less to biomedical causes, suggesting this objective may be achieved if it were to be renamed. The belief among the public that people with schizophrenia are dangerous is consistently cited as detrimental to their inclusion in society (Angermeyer & Matschinger, 2004; Feldman & Crandall, 2007; Link et al., 1999; Phelan & Link, 1998; Phelan, Link, Stueve, & Pescosolido, 2000). Findings suggest that, independent of behaviour, the term schizophrenia may have a role to play in perpetuating this stereotype.

The label integration disorder had a negative effect on social distance. Van Os (2009a) proposed that the term integration disorder may paradoxically induce

stigma because the public cannot relate to a universal psychological function of 'integration'. Accordingly, while the term schizophrenia is invariably associated with danger, integration disorder may have evoked different stereotypes, not uncovered in this study but reflected in the increase in desire for social distance. Integration disorder is also the less familiar diagnosis, and familiarity is known to reduce social distance (Angermeyer et al., 2004). Indeed, manic depression, arguably the less familiar term in the comparison with bipolar disorder, also elicited a greater desire for social distance. Bipolar disorder may not, though, be the more familiar term for older generations, and it is noteworthy that the mean age of this sample was 33 years.

For both disorders, there were no differences between the labels on several domains of stigma. Thus, while the label itself had an overriding negative effect on some aspects of stigma, depicted behaviour was more important on others. Evidence that behaviour is the major determinant of negative attitudes is provided by a number of studies, with a review by Link, Cullen, Frank and Wozniak (1987) finding that ten out of 12 studies which compared labelled and unlabelled vignettes reported that behaviour had an effect that was more potent than labels. These non-significant findings also lend support to the 'cognitive miser' conception of schema functioning. This suggests that renaming does not even result in a temporary change in attitudes, as in order to save cognitive energy people apply their existing schema for a condition when presented with a new label (Crocker et al., 1984; Fiske & Taylor, 1991; MacDonald & MacIntyre, 1999; Macrae et al., 1994). It is, however, possible that these non-significant findings are due to the type of attitude being measured. Research evaluating the effect of renaming in Japan (Takahashi et al., 2009) found no difference between the label schizophrenia and the label integration disorder on measures of explicit attitudes, but found schizophrenia was more strongly associated

with negative stereotypes on implicit attitude measures. Future research is needed to test this hypothesis in a UK sample.

This study does not support the hypothesis that any benefits of renaming are short-lived (Schroeder et al., 2002; Walsh, 2002; Wolfensberger, 2002). While renaming did not show positive effects on all domains of stigma for either disorder, the term that has been in use for over 30 years (bipolar disorder) showed a more consistent pattern of benefit than the one just introduced (integration disorder). Crucially, changes in social distance, often described as the most important component of stigma (Jorm & Oh, 2009), have been sustained, if not perhaps become more pronounced over time. The assertion that renaming is most effective coupled with education and positive media attention (Panek & Smith, 2005) may partly explain this finding. Any positive effect of renaming through changes in internalised stigma is also likely to take time to become apparent.

The effect of renaming disorders on stigma is unquestionably complex. The negative effect the term integration disorder had on social distance suggests any decisions to rename should be made with caution. Further research is needed to untangle the various hypotheses arising from these findings, particularly to help elucidate what contributed to this negative effect. Specifically, research is needed in the following areas: 1) to explore other alternative labels for schizophrenia, such as 'salience syndrome' (van Os, 2009a), to determine whether the term integration disorder is in itself problematic. 2) To assess the impact of labelling in other fields, such as intellectual disabilities, which have had new labels in use for a significant period of time. This is important as although findings tentatively suggest that renaming may take time to exert its effect, the more positive findings for bipolar disorder may be disorder specific and not represent an effect of time. 3) To determine

whether the effect of renaming on stigma is mediated by changes in internalised stigma and consequently increased contact, and increased receptiveness to education. Qualitative research among people with bipolar disorder and schizophrenia would be an important beginning with regard to changes in internalised stigma. Comparing the impact of an education intervention on attitudes, whilst manipulating the label of the disorder in question, would help address the second hypothesis.

4.3. Limitations

Women and people with university degrees were over-represented in the present sample, meaning that findings may not generalise to other populations. These factors are generally associated with less stigma (Angermeyer et al., 1998; Jorm & Oh, 2009), and results may therefore underestimate negative attitudes. Of note, neither gender nor educational attainment predicted scores in social distance in the current sample. Unlike much of the research in this field, a strength of this study is that the sample was not predominantly comprised of students. Although all questions addressed in this study were theoretically derived and all p-values Bonferroni corrected within each questionnaire, the large number of analyses conducted may have increased the likelihood of a type I error.

The measurement of beliefs and attitudes using vignettes and self-report questionnaires has implications for the ecological validity of the findings. It is unknown whether behavioural intentions predict discriminatory behaviour, something which has not yet been subject to empirical investigation. There is evidence that behavioural intentions are good predictors of behaviour though (Webb & Sheeran, 2006), which provides support for the ecological validity of social distance scales. Responses to a vignette are evidently different to genuine interpersonal interactions. This may pose particular difficulty to the measurement of

emotional reactions, where vignettes may not be powerful enough to evoke the emotions that may actually be present. Finally, although the use of anonymous internet based questionnaires is known to increase disinhibition and honesty and reduce social desirability (Joinson, 1999), participants may still have been reluctant to reveal the true extent of their negative attitudes.

4.4. Scientific and Clinical Implications

Disseminating findings regarding the positive beliefs and attitudes towards bipolar disorder to service users may help reduce shame and internalised stigma. If, as seems likely, the media have had a significant role to play in this more positive image, addressing the portrayal of schizophrenia in the media is of utmost importance. Although bipolar disorder was viewed more positively than schizophrenia and was predominantly associated with positive beliefs and emotions, the public still endorsed negative stereotypes to some extent and had some desire for social distance. Anti-stigma interventions for bipolar disorder should attend to negative beliefs and emotional reactions, particularly reducing fear and increasing compassion, as these both play a vital role in reducing social distance. Whether these interventions should be focused on religious groups requires further investigation. Interventions that involve increasing contact between the general population and people with bipolar disorder and schizophrenia are recommended. The endorsement of biomedical causal beliefs for bipolar disorder may have implications for the types of treatments the public seek. Medication has the most evidence in the treatment of bipolar disorder (National Institute for Health and Clinical Excellence, 2006), but psychologists have an important role in relapse prevention (Lam et al., 2003), and there may be a need for education regarding this.

Renaming disorders in an attempt to reduce stigma needs to be carefully considered, particularly as its benefit may take time to become apparent. Renaming schizophrenia to integration disorder may have negative implications for social distance, which need further investigation. At the same time, a decision not to rename may overlook an important opportunity to tackle damaging stereotypes and promote a biopsychosocial model of causality. Finally, service users and families have been campaigning for over 30 years to have the term for schizophrenia changed (George, 2010; Sato, 2006). It is of paramount importance that this is not ignored in any decision regarding renaming.

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Part 3: Critical Appraisal

1. Introduction

This appraisal will reflect on the conceptual and methodological issues that arise in the measurement of the public's cognitive, emotional, and behavioural reactions towards mental illness. It will then explore some further issues pertaining to stigma change strategies, particularly in relation to the magnitude of effect that is expected. It will conclude with a discussion of the role of clinical psychology in stigma reduction.

2. Conceptual and Methodological issues

Stigma is a multidimensional concept (Corrigan & Watson, 2002; Link & Phelan, 2001; Thornicroft, Rose, Kassam, & Sartorius, 2007). Its meaningful measurement is undeniably complex and the field has long struggled with issues of ecological validity. Challenges in attempting to explore stigma in a disorder which has received virtually no attention to date will be explored. This will be followed by a discussion of ecological validity, issues with the measurement of specific domains of stigma, conceptual issues relating to the mediating role of emotions, and generalisability of the findings.

2.1. Scope of the Thesis

The National Institute for Health and Clinical Excellence (2007) emphasise the inclusion of knowledge, attitude, and behavioural components when developing and evaluating interventions aimed at behaviour change among individuals or populations. The question as to which knowledge domains, attributions, emotions, and behaviours should be targeted requires extensive exploration of these in different disorders. There is a vast respective literature regarding schizophrenia and depression, with single papers dedicated to the measurement of certain domains (e.g. Angermeyer & Matschinger, 1994, 2003a; Lauber, Falcato, Nordt, & Rössler, 2003).

Given the limited research into bipolar disorder it was decided that a more exploratory focus in this research would be beneficial; with inclusion of as many of these components as was feasible in a single study. This has undeniable drawbacks, in that some components could not be explored in detail. For example, examination of the impact of different causal beliefs on attributions, emotions, and behaviour would have been interesting (Dietrich, Matschinger, & Angermeyer, 2006; Read, Haslam, Sayce, & Davies, 2006), particularly as biomedical causal beliefs were most endorsed for bipolar disorder, which differentiates it from other disorders (Angermeyer & Dietrich, 2006). The nature and frequency of contact with mental illness has been found to influence reactions in different ways (Angermeyer, Matschinger, & Corrigan, 2004). Given that contact was found to predict stigma in bipolar disorder, more detailed exploration of this would be important. Such analysis was beyond the scope of this thesis, although will be addressed in subsequent papers arising from the data.

Bipolar disorder is unique in that it is one of the few disorders to have undergone a name change in the last 30 years. It was felt that any exploration into attitudes towards bipolar disorder would benefit from understanding what, if any, effect this change may have had on beliefs and attitudes. This endeavour seemed particularly pertinent given the current debate about the renaming of schizophrenia (Lieberman & First, 2007).

2.2. Ecological Validity

Social distance, which is essentially a measure of behavioural intentions, is the most commonly measured component of stigma (Jorm & Oh, 2009). The validity of measures of social distance is determined by their ability to predict behaviour towards people with mental illness, including discriminatory behaviour. Whether

these scales predict discrimination has not been subject to empirical investigation to date. Instead, their validity has been demonstrated by findings showing that people with lower social distance report more contact with people with mental illness (Jorm & Oh, 2009; Link, Yang, Phelan, & Collins, 2004), although the direction of this relationship remains unclear. Behavioural intentions have been shown to predict behaviour (Webb & Sheeran, 2006), although situational factors, social pressure, competing attitudes, and other variables are known to interrupt the link between the two.

Some efforts have been made to assess direct helping behaviour in addition to self-reported attitudes on social distance scales, by asking participants to donate money they earned from study participation to a mental health charity (Corrigan et al., 2002). The total money donated varied depending on the type of anti-stigma intervention, although it was not reported whether the amount donated correlated with social distance scores. Differences in participants' financial situation may also account for some of the variability in the amount donated, and this may not therefore be a direct measure of stigma related helping behaviour. Importantly, whether behaviour is measured using a social distance scale or a donation of money, there is still the issue of socially desirable responding. Perhaps the most ecologically valid measurement of discrimination is that used by the anti-stigma campaign *Time to Change*, who have measured the number of discriminating experiences people with mental illness face each day (Corker et al., 2013). This method clearly requires substantial financial resources. While recognising its limitations in terms of ecological validity, the use of a social distance scale as a proxy measure of rejection and discrimination was deemed most feasible for the present study and allowed findings to be compared to the evidence base.

The Emotional Reactions to Mental Illness Scale (ERMIS) (Angermeyer, Buyantugs, Kenzine, & Matschinger, 2004; Angermeyer, Holzinger, & Matschinger, 2010; Angermeyer & Matschinger, 2003b) is one of the most commonly used measures of emotional reactions, yet the measurement of emotions using a self-report questionnaire is undeniably problematic. Cognitive appraisal is likely to interrupt the reporting of any genuine emotions experienced, not to mention whether a vignette is even able to evoke the kind of emotions that would be present in real life interpersonal interactions. The use of video as opposed to written vignettes is perhaps more likely to evoke meaningful emotions, although even this is decontextualised to the extent that reactions may not accurately reflect those found in real life situations (Jorm & Oh, 2009). The low degree of anger reported in this study is in line with a number of studies (Angermeyer & Matschinger, 1997; Crespo, Perez-Santos, Munoz, & Guillen, 2008; Flanagan & Davidson, 2009), and is perhaps the emotion most prone to be inhibited by social desirability. Anti-stigma and public education campaigns are often centred on a message that blaming and rejecting a person on the grounds that they have a mental illness is ignorant and wrong (Link et al., 2004). Admission of anger may therefore be deemed particularly unacceptable. Given that anger is intuitively linked to abuse and violence towards people with mental illness, it is important that a more accurate way to uncover these emotions is developed.

The path analysis conducted in this study showed that endorsement of the belief that people with bipolar disorder were dependent increased fear and compassion simultaneously and to a similar degree. It is commonly understood that the experience of threat based emotions (such as fear) is incongruent with activation of the affiliative system and thus compassionate emotions (Gilbert, 2005). This may

be further evidence that cognitive appraisals played a role in participants' reporting of their emotional reactions. The measurement of emotions through physiological indications, such as heart rate and skin conductance (Kreibig, 2010), has only been investigated in one study exploring stigma towards schizophrenia (Graves, Cassisi, & Penn, 2005). Graves et al. (2005) presented participants with a picture of someone described as having schizophrenia whilst playing them an audio recorded vignette describing their symptoms. Participants were then asked to imagine interacting with this person. This stimuli and task were salient enough to evoke physiological reactions, and could therefore be a useful addition to written or video vignettes when assessing self-reported emotional reactions. Unfortunately, the authors did not correlate physiological responses with a self-report measure of emotional reactions. Future research would benefit from examining this relationship to help demonstrate the validity of the ERMIS. Of note, Graves et al. (2005) did show that physiological responses predicted scores on social distance, which provides some further evidence for the validity of this measure. More generally, the use of physiological indicators in the assessment of emotional reactions is an important avenue for future research.

The assessment of implicit attitudes is one way of reducing bias resulting from social desirability. The most widely used measure is the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998; Greenwald, Poehlman, Uhlmann, & Banaji, 2009), and this has started to be used in the assessment of public attitudes towards mental illness (e.g. Peris, Teachman, & Nosek, 2008; Teachman, Wilson, & Komarovskaya, 2006). Implicit attitudes towards bipolar disorder have not yet been subject to empirical investigation.

2.3. Causal Beliefs

The relationship between causal beliefs, attitudes, and social distance is the subject of much debate. This is important to consider as different diagnostic labels had their biggest effects on causal beliefs, and the debate around renaming has often included discussion about changing the public's causal explanations (Sato, 2006). Specifically, there is a drive to promote a more biopsychosocial model of causality. On a more general level, there is a strong drive in psychology to emphasise the environmental and psychological processes that are important in the aetiology of mental disorders, particularly schizophrenia (Bentall & Fernyhough, 2008; Boyle, 2002). Although it is important to note that this is occurring alongside an equally strong emphasis over recent years on genetic contributors to schizophrenia and other mental health problems (Wan, Abel, & Green, 2008). While these endeavours are not primarily aimed at changing the public's perceptions of schizophrenia, it is important to consider what effect this change may have.

In the stigma literature, it has been generally assumed that endorsement of biomedical beliefs has a positive effect on social distance by reducing anger and increasing pity (Corrigan et al., 2000). Promoting biomedical causal explanations has therefore been recommended (Jorm et al., 1997). There is some evidence that endorsement of biomedical causal beliefs for schizophrenia has the opposite effect of increasing fear and social distance (Angermeyer & Matschinger, 2003a; Read et al., 2006), although some studies have found no relationship between the two (Bennett, Thirlaway, & Murray, 2008; Jorm & Griffiths, 2008), and the opposite has been found for intellectual disabilities (Connolly, Williams, & Scior, in press; Panek & Jungers, 2008). While environmental causes are generally associated with less anger, more pity and less social distance (Angermeyer et al., 2010; Angermeyer &

Matschinger, 2003a), the picture is complicated because it depends on which environmental causes are endorsed and which disorder these are attributed to. For example, Angermeyer and Matschinger (2003a) found that a belief that lack of parental affection (which loaded onto the psychosocial subscale in this study) was associated with increased pity and anger for both schizophrenia and depression, but decreased fear for schizophrenia while increasing it for major depression.

Biomedical causal beliefs were most strongly endorsed for both bipolar disorder and schizophrenia in the present study, yet bipolar disorder elicited a lower degree of fear and social distance than schizophrenia. Further, in comparison to the label manic depression, bipolar disorder was associated with increased biomedical causes as well as reduced fear and social distance. This perhaps suggests that, in line with the literature, biomedical causal beliefs have differential effects on attitudes depending on which disorder these are attributed to. This is in need of investigation, as the relationship between causal beliefs and stigma has not been explored in bipolar disorder. In comparison to schizophrenia, integration disorder was ascribed more to psychosocial causes and less to biomedical causes. Given the mixed picture with regard to the effects of causal beliefs on stigma, coupled with the increase in social distance that was found for integration disorder, this may not necessarily be beneficial. It will be important to explore the relationship between renaming, causal beliefs, and social distance in future research. Lastly, when considering renaming a disorder or promoting certain causal attributions in an attempt to reduce stigma, the views of service users should be considered. A qualitative study on internalised stigma among people with bipolar disorder found that most participants felt that a genetic explanation was likely to decrease the stigma as it shifted the locus of control and responsibility away from the individual towards the role of heredity (Meiser,

Mitchell, McGirr, Van Herten, & Schofield, 2005). As with renaming, the indirect effect this causal attribution may have on public stigma should be considered. That is, if people believe that the public are not going to blame them for their diagnosis, they may be more likely to disclose it, consequently increasing contact.

More generally, attribution theory (Weiner, 1980) is often used to explain the link between causal beliefs, emotions, and behaviour. It proposes that inferring personal responsibility for a negative event increases anger and diminishes helping behaviour, while attributing the cause of an event to be outside the person's control increases pity and desire to help (Corrigan et al., 2000). While these inferences about controllability can be partly linked to specific causal attributions, for example, it is generally assumed that biomedical causes are uncontrollable, it is not always this straightforward. Broad categories such as environmental or psychosocial causes, which often emerge from factor analyses of causal belief items (Angermeyer & Matschinger, 2003a; Furnham & Anthony, 2010; Jorm, 2000; Nieuwsma & Pepper, 2010; Scior & Furnham, 2011), are not easily categorised into controllable or uncontrollable causes. Even individual items may not map straightforwardly onto these categories. For example, in the present study, psychosocial causes contained the item 'financial or work related stress', which could be viewed by some participants as controllable and by others as uncontrollable. Research exploring the degree to which specific causes are viewed as controllable or uncontrollable by the general population is needed. This would greatly improve the ease with which attribution theory can be applied to our understanding of the effects different causal beliefs have on stigma.

2.4. Stereotypes

The vast majority of literature on the stereotypes regarding mental illness has focused on negative stereotypes, namely beliefs about dangerousness and dependency (Angermeyer & Dietrich, 2006). Due to the positive media attention bipolar disorder has attracted over the last six years or so, it was decided to also measure the public's beliefs about intelligence and creativity. To my knowledge, this has only been investigated in one other study (Angermeyer & Matschinger, 2004), and this was in relation to schizophrenia. This stereotype was not included in the path model in the present study because the primary aim of this analysis was to provide support for the link between cognitive, emotional, and behaviour reactions, outlined in Corrigan's model of public stigma (Corrigan & Watson, 2002), in bipolar disorder. His model does not include positive beliefs. Angermeyer and Matschinger (2004) found that endorsement of the belief that people with schizophrenia are intelligent and creative reduced desire for social distance, although they did not explore whether this relationship was mediated by emotional reactions. This is an important avenue for future research both in relation to bipolar disorder and other mental health problems.

There are potential conceptual issues in the description of beliefs about intelligence and creativity as stereotypes. Stereotypes are defined as 'a widely held but fixed and oversimplified image or idea of a particular type of person or thing' (Oxford English Dictionary, 2013). It could be argued that there is evidence for a link between intelligence and creativity and bipolar disorder that goes beyond over-simplification (Jamison, Gerner, Hammen, & Padesky, 1980; Johnson, 2005; MacCabe et al., 2010).

2.5. The Mediating Role of Emotional Reactions

Compassion was found to have a suppressive effect on the relationship between stereotypes and discriminatory behaviour in bipolar disorder. That is, endorsement of attributions of dangerousness and dependency increased compassion which in turn reduced discriminatory behavioural intentions. Mediation is defined as a mechanism through which the independent variable (i.e. a belief that the person is dependent or dangerous) brings about the dependent variable (i.e. increased desire for social distance), so it elucidates the causal process by which the effect happens (James & Brett, 1984). A mediator is therefore a variable which affects the dependent variable in the same direction as the independent variable affects the dependent variable (i.e. the mediator variable and the independent variable have the same sign). A suppression effect is present when the direct and mediated effects of an independent variable on a dependent variable have opposite signs (Tzelgov & Henik, 1991), which was the case with compassion. In the literature, compassion, or 'pity' as it is usually referred to, is grouped with other emotional reactions (fear and anger) as having a mediating effect in the relationship between cognitive and behavioural reactions (Angermeyer, Buyantugs, et al., 2004; Angermeyer & Matschinger, 2003a, 2003b). For this to hold true theoretically, that is for compassion to be included in the model as a mediator rather than a suppression variable, the items on compassion would need to be reverse coded. Items would then signify a lack of compassion. This was not done in the present study as the path model was testing a model previously explored in the literature in schizophrenia and depression, and these models have always kept compassion a positively coded item. Also, previous research has only found compassion to have a suppressive effect in the relationship between dependency and social distance, for dangerousness it

usually acts as a mediator (Angermeyer & Matschinger, 2003a, 2003b). If the suppressive effect of compassion for both attributes is replicated in future studies, it might make more theoretical sense to recode this variable.

At a broader theoretical level, it is important to consider the order of variables in the path model. Corrigan's model of public stigma (Corrigan, 2000; Corrigan & Watson, 2002) places emotional reactions as mediators between cognitive and behavioural reactions. Others argue that emotional reactions feature at every stage of the stigma process (Link et al., 2004). In line with Corrigan's model, cognitive behavioural models (Beck, 1995) postulate that cognitive reactions precede emotional responses, which in turn precede behaviour. This idea is not without contention though, and psychodynamic theories place emotions as central to the human psyche. It is proposed that some emotions (i.e. anxiety) have a signalling function to the ego to warn of the occurrence of 'trauma' (with 'trauma' being the uprising of painful hidden feelings and impulses). The ego then protects itself by mobilising defences (Della Selva, 2006; Freud, 1926). In the stigma process, this defence may be projection of intolerable aspects of oneself onto the stigmatised group (i.e. 'that person is dangerous and unpredictable') (Bettelheim & Janowitz, 1964). Thus, in this model emotion is clearly at the start of the stigma process, preceding negative attributions and behaviour. It could therefore also make theoretical sense to test a path analysis in which emotional reactions precede cognitive attributions, perhaps an avenue for future research.

2.6. Generalisability of Findings

The number of studies which have utilised internet based recruitment has increased exponentially (Benfield & Szlemko, 2006). Psychologists now use the internet for a wide range of research (Gosling, Vazire, Srivastava, & John, 2004), as

internet based research has the clear advantages of feasibility, increased sample size, cost effectiveness, and some argue greater sample diversity (Benfield & Szlemko, 2006). There is also good evidence that the reliability and validity of instruments is not compromised when they are used in a web-based format (Berrens, Bohara, Jenkins-Smith, Silva, & Weimer, 2003; Schillewaert & Meulemeester, 2005; Sethuraman, Kerin, & Cron, 2005). However, there are concerns about the representativeness of internet samples. It has been argued that they are not demographically diverse, with an overrepresentation of young, white, upper-middle class, highly educated, men (Azar, 2000; Buchanan, 2000; Etter & Perneger, 2001; Krantz & Dalal, 2000), although these findings have been challenged (Gosling et al., 2004). Gosling et al. (2004) compared a large internet sample (n = 361,703) with a set of 510 published traditional samples and found that internet samples were relatively diverse with respect to gender, socio-economic status, geographic region and age. The sample recruited in this study was largely educated to degree level but was 70.7% female, as opposed to being predominantly male. Findings may not generalise to males or those with less education, although neither of these variables predicted scores on social distance in the present sample. The ethnic make-up of the sample was broadly representative of the UK population (Office of National Statistics, 2013).

It is likely that the demographic composition of this sample was affected by self-selection bias. This bias may have also been more influenced by collecting a convenience sample using snowballing than by online recruitment per se, although the issue of self-selection bias has been noted as a particular threat to internet based recruitment (Etter & Perneger, 2001; Gosling et al., 2004). Whether the self-selection of participants was responsible for the demography of the sample or not, it

has implications for the generalisability of the findings. It is possible that those who chose to participate had a greater interest in mental health and in advancing research in this field, and therefore more positive attitudes. This effect could have been exacerbated by the use of snowballing. This could have meant that the study was more likely to be passed on by those who were interested in mental illness and to those deemed to be more interested in this kind of research. If this were the case, one might expect this sample to have reported more contact with the problems depicted than would be reported in a representative sample recruited using a more rigorous sampling technique. This was not the case. Angermeyer et al. (2004), who recruited a representative sample using a random sampling procedure, also found that approximately 30% of their sample reported contact with someone with schizophrenia. Comparative data are not available for bipolar disorder. While this is promising, self-selection is still likely to have affected the findings.

The use of an internet based convenience sample, recruited using Gardner's method of snowballing (Gardner, 2009), was therefore used with these limitations in mind. Anonymous internet data collection was deemed particularly important given the issue of socially desirable responding in the assessment of self-reported attitudes. This method is known to reduce social desirability bias (Joinson, 1999). Due to limited funding, it was not possible to make use of stratified sampling or another more rigorous sampling procedure. Efforts were made to increase the number of males and people without university degrees, and while the percentages were relatively low, a total of 365 people without a university degree and 442 males were recruited. In hindsight, more time could have been focused on this endeavour.

Finally, this sample comprised of UK residents. It is not known whether these finding generalise to other cultures. Indeed, cross cultural variability in attitudes has been demonstrated (Angermeyer & Dietrich, 2006).

3. Change: What, How and How Much?

One aim of this study was to assess the utility of renaming as a method of stigma reduction. Effect sizes of the differences between different labels were small but were comparable to those obtained from the large scale anti-stigma campaign, *Time to Change* (Evans-Lacko, Henderson, & Thornicroft, 2013). While the current study is not, of course, assessing change in attitudes in a representative sample of the population to genuine renaming, the sample size of *Time to Change's* outcome studies are equivalent to this study's, and the social distance measure was almost identical. Even if these small changes were to be expected, we do not know how meaningful a 3% improvement of attitudes is in the real world. It is notable that alongside *Time to Change's* 1.4% change in attitudes they reported a 3% increase in the number of people reporting no discrimination and an 11.5% reduction in the average levels of discrimination reported (Corker et al., 2013). This may suggest that a small change in attitudes facilitated this change in experienced discrimination, although it is also entirely possible that discrimination reduced independent of attitudes. Indeed, Graham Thornicroft, a leading stigma researcher who is involved in the evaluation of *Time to Change*, argues that a reduction in discrimination and negative behaviour is more important than changing negative attitudes (Thornicroft, 2006). Whether we should target attitudes or behaviour, such marginal improvements in self-reported attitudes may raise a more general issue of how resistant attitudes are to change.

With regard to how, perhaps this study highlights that no one method of stigma reduction is sufficient. Changing the perception of mental illness in the media, increased education, increased contact, and renaming are all likely to have a role to play in stigma reduction. Further research into the interaction between these different approaches, particularly education coupled with renaming (Panek & Smith, 2005), is needed.

4. The Role of Clinical Psychology in Stigma Reduction

The absence of clinical psychology in the scientific understanding of mental illness stigma and anti-stigma interventions is surprising. Of the five leading researchers in this field (Matthias Angermeyer, Patrick Corrigan, Anthony Jorm, Bruce Link, and Graham Thornicroft) only Patrick Corrigan is a clinical psychologist, with psychiatry being the dominant discipline. In a review of journal articles on mental illness stigma between 1998 and 2008, Corrigan and Shapiro (2010) found that only 1.4% of these were published in clinical psychology journals.

Clinical psychology plays a central role in understanding, preventing, and alleviating psychological distress resulting from the symptoms and other consequences of mental illness. Stigma is one of the biggest predictors of this distress, and people with mental illness commonly describe the stigma they face as worse than the symptoms themselves (Thornicroft, 2006). Clinical psychologists are only useful to service users if those in need actively seek help and are able to make use of psychological therapy when they do, yet the impact stigma has on access and participation in mental health services is vast. Fifty to 75% of those with mental health difficulties who may benefit from mental health services do not receive them and a large percentage drop out of treatment prematurely. Stigma is known to contribute to these difficulties (see Corrigan, 2004, for a review).

Clinical psychologists' knowledge of psychological distress and resilience could also be usefully applied to understanding the interplay between public and internalised stigma. The complex mechanism by which public stigma may impact on problem maintenance through internalised stigma is particularly evident in the field of weight stigma (Ratclffe & Ellison, in press). For example, the internalisation of negative attitudes about weight can lead to low mood and shame, which in turn deregulates eating and weight management behaviours, maintaining obesity and weight stigma. Similarly, one pathway to the development of social anxiety in people with psychosis is through internalised stigma and shame (Birchwood et al., 2007). Another pertinent issue is how efforts to bring about behaviour change may inadvertently increase both public and internalised stigma. Obesity prevention programmes which emphasise the undesirability of being overweight may unintentionally increase societal stigmatisation as well as increasing shame and self-stigma in the obese individual (Puhl & Latner, 2007). This is also perhaps an issue in the treatment of schizophrenia, with the previous focus on symptom elimination possibly exacerbating internalised stigma by reinforcing the idea that such experiences are unacceptable and wrong. The current focus of psychological therapy for psychosis on reducing the distress associated with the symptoms, as opposed to removal of the symptoms themselves (Chadwick, Taylor, & Abba, 2005; Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001; Gaudiano & Herbert, 2006), may be a direct example of how clinical psychology can help reduce internalised stigma. The application of psychological theories to the understanding of the stigma process (for example, the link between cognitions, emotions, and behaviour) and motivations for stigma, makes clinical psychology well placed to participate in stigma change at a population level, as well as at an individual level.

More generally, clinical psychologists have an important role to play in how they talk about mental illness both in and out of the therapy room in order not to perpetuate stigma. Narrative theory in particular stresses the importance of language in shaping people's realties (White, 2007a), and the field has long sought to do away with descriptions of clients as 'schizophrenic' or 'depressive'. The use of externalising language is central to this (White, 2007b), and it is perhaps noteworthy that you rarely hear of clinicians referring to 'the schizophrenia' as they might 'the depression'. This may be another indication of the iatrogenic stigma associated with this term, and an example of where renaming may have an indirect effect on internalised stigma by changing the way it can be utilised in the therapy room.

The discipline of community psychology, with its ethos of inclusivity and social justice, has the issue of stigma at its heart. Clinical psychologists have a growing presence in this field. Almost 40% of the members of the Division of Community Psychology of the American Psychological Association reported their subfield as clinical psychology (Corrigan & Shapiro, 2010). The London Community Psychology Network, which is a recently established regional network of clinicians interested in community psychology, is almost exclusively attended by clinical psychologists. This may indicate that as a discipline we have begun to have more of a presence in stigma reduction, but the role of clinical psychology in community psychology is wide ranging. What is clear is that we need to join our colleagues in psychiatry in the fight against mental illness stigma and discrimination, and in the promotion of social justice for our service users.

5. Conclusions

The issue of stigma is unquestionably complex and permeates much of psychological distress. This study highlighted some of this complexity, particularly

when considering the issue of renaming disorders in an attempt to reduce stigma, but also provided some promising findings regarding the public perceptions of people with bipolar disorder. As discussed in this appraisal, the measurement of public beliefs and attitudes is fraught with difficulties and these findings need to be interpreted with caution due to undeniable issues with generalisability. Notwithstanding these limitations, I hope this literature review, empirical paper, and critical appraisal will be useful to researchers and ultimately to the many service users who suffer from the damaging consequences of stigma.

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Appendix A:

DSM-IV Criteria for Bipolar Disorder

Bipolar disorder is characterized by more than one bipolar episode. There are three types of bipolar disorder:

1. Bipolar 1 Disorder, in which the primary symptom presentation is manic, or rapid (daily) cycling episodes of mania and depression.
2. Bipolar 2 Disorder, in which the primary symptom presentation is recurrent depression accompanied by hypomanic episodes (a milder state of mania in which the symptoms are not severe enough to cause marked impairment in social or occupational functioning or need for hospitalization, but are sufficient to be observable by others).
3. Cyclothymic Disorder, a chronic state of cycling between hypomanic and depressive episodes that do not reach the diagnostic standard for bipolar disorder.

Manic episodes are characterized by:

A. A distinct period of abnormally and persistently elevated, expansive, or irritable mood, lasting at least one week (or any duration if hospitalization is necessary)

B. During the period of mood disturbance, three (or more) of the following symptoms have persisted (four if the mood is only irritable) and have been present to a significant degree:

(1) increased self-esteem or grandiosity

(2) decreased need for sleep (e.g., feels rested after only three hours of sleep)

(3) more talkative than usual or pressure to keep talking

(4) flight of ideas or subjective experience that thoughts are racing

(5) distractibility (i.e., attention too easily drawn to unimportant or irrelevant external stimuli)

(6) increase in goal-directed activity (either socially, at work or school, or sexually) or psychomotor agitation

(7) excessive involvement in pleasurable activities that have a high potential for painful consequences (e.g., engaging in unrestrained buying sprees, sexual indiscretions, or foolish business investments).

Depressive episodes are characterized by symptoms described for Major Depressive Episode.

Appendix B:

Quality Assessment Checklist

Author:				
Question	**Yes**	**Can't tell**	**No**	**Comments**
1. Is the study relevant to the needs of the project?				
2. Does the paper address a clearly focused issue? **In terms of:** • The population studied? • (case-control study only) Is the case definition explicit and confirmed? • The outcomes considered? • Are the aims of the investigation clearly stated?				
3. Is the choice of study method appropriate?				
4. Is the population studied appropriate? • (Cross-sectional) Was the sample representative of its target population? • (Cohort) Was an appropriate control group used – i.e. were groups comparable on important confounding factors? • (Case-control) Were the controls randomly selected from the same population as the cases?				
5. Is confounding and bias considered? • Have all possible explanations of the effects been considered? • (Cohort study) Were the assessors blind to the different groups? • (Cohort study) Could selective drop out explain the effect? • (Cross-sectional) Did the study achieve a good response rate? • (Cross-sectional) Were rigorous process used to develop the questions (e.g. were the questions piloted/validated/reliable) • (Case control study) How comparable are the cases and				

controls with respect to potential confounding factors? • (Case control study) Were interventions and other exposures assessed in the same way for cases and controls? • (Randomised designs) Is assignment of subjects to intervention groups randomised? • (Randomised designs) Are the intervention and control groups similar at the start of the trial?				
6. (Cohort study) Was the follow up long enough? • Could all likely effects have appeared in the time scale? • Could the effect be transitory? • Was follow up sufficiently complete? • Was dose response demonstrated?				
7. Are the tables/graphs adequately labelled and understandable?				
8. Are you confident with the authors' choice and use of statistical methods, if employed?				

Summary Judgment:	
++	**All or most** of the criteria have been fulfilled. Where they have not been fulfilled the conclusions of the study or review are thought *very* **unlikely** to alter.
+	**Some** of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought **unlikely** to alter the conclusions.
–	**Few or no** criteria fulfilled The conclusions of the study are *thought* **likely or very likely** to alter.

Appendix C:

Vignettes

Bipolar Disorder Vignette

John is 24 and has a diagnosis of **bipolar disorder/manic depression**. In the past there were times where he felt very sad and low without there being a specific reason for it. During these times he doesn't enjoy things that used to give him pleasure, hardly ever talks, and frequently worries about his future. He feels tired all the time, does not have an appetite, and believes he is a worthless person, who can never do anything right. In contrast to this and to his usual behaviour, he is currently in a very good mood without any specific reason. He is sometimes irritable, is much more talkative than usual, and talks very fast. He often talks loudly and over-confidently about new ideas and projects he wants to pursue, but constantly changes his mind about his plans. He believes he is different from everyone else due to having special abilities that mean he is particularly gifted and intelligent. He buys things he does not need and cannot afford. In the middle of the night he telephones people to tell them something allegedly important. He acts very impulsively, erratically, and will often wake up earlier than usual but still feel bursting with energy. He sometimes manages without any sleep and still doesn't feel tired. (212 words)

Schizophrenia Vignette

James is 24 and has a diagnosis of **schizophrenia/integration disorder**. Over recent months he has spent lots of time alone, locked in his house, and has stopped washing and taking care of his appearance. He has become increasingly convinced that people can read his thoughts, which makes him feel very frightened. Before he

stopped going out, whenever he talked to anyone he would only talk about whether they thought people could read other people's thoughts, as this had become his sole concern. When he is at home alone he will also frequently hear people talking to him. Sometimes they will give him instructions and at other times they will talk to each other, and make fun of whatever he was doing at the time. James will talk back to these voices, often getting angry and telling them to 'stop'. When he talks his speech is very disorganised, and it is difficult to make out what he is saying. This is not the first time James has had experiences like these, but on this occasion he is much more frightened as the voices are more aggressive than they used to be. He will also sometimes feel low in mood, lacking in motivation and will not talk much. (206 words)

Appendix D:

Full Questionnaire Pack

Attitudes towards people with mental health problems

We would like to invite you to participate in this important research project, conducted by University College London. Before you decide whether you want to take part, it is important that you read the following information carefully. It is up to you to decide whether or not to take part. Please ask if there is anything that is not clear or you would like more information.

Purpose of the research

We are interested in finding out about reactions and attitudes in the general population towards people with mental health problems.

Completing this questionnaire will take you about 15 to 20 minutes. We are very interested in your honest views, not any 'right' or 'wrong' answers.

To thank you for taking part you will be entered into a Prize Draw – you will have a chance of winning £100 in vouchers for a shop of your choice.

A £25 cash prize will be offered to the two people who recruit most people to the study. We request that you forward details of the study only to people you know.

The personal information you provide will only be used for the purposes of this project and not transferred to an organisation outside of UCL. The information will be treated as strictly confidential and handled in accordance with the provisions of the **Data Protection Act 1998.**

Principal Investigator: Nell Ellison, Clinical, Educational & Health Psychology, University College London, London WC1E 6HJ; Email: nell.ellison.10@ucl.ac.uk, Tel: 020-7679-1845

This study has been approved by the Ethics committee of the Division of Psychology and Language Sciences.

This questionnaire is in two parts. The first part presents two case studies - we would like you to rate your response, views of likely causes and chances of recovery. The second part asks some information about you. Please respond to all items - if you are unsure of a response please make a best guess.

John is 24 and has a diagnosis of **bipolar disorder/manic depression.** In the past there were times where he felt very sad and low without there being a specific reason for it. During these times he doesn't enjoy things that used to give him pleasure, hardly ever talks, and frequently worries about his future. He feels tired all the time, does not have an appetite, and believes he is a worthless person, who can never do anything right. In contrast to this and to his usual behaviour, he is currently in a very good mood without any specific reason. He is sometimes irritable, is much more talkative than usual, and talks very fast. He often talks loudly and over-confidently about new ideas and projects he wants to pursue, but constantly changes his mind about his plans. He believes he is different from everyone else due to having special abilities that mean he is particularly gifted and intelligent. He buys things he does not need and cannot afford. In the middle of the night he telephones people to tell them something allegedly important. He acts very impulsively, erratically, and will often wake up earlier than usual but still feel bursting with energy. He sometimes manages without any sleep and still doesn't feel tired.

1. Please rate how you feel after reading this, using this scale:

1 = Disagree strongly
2 = Disagree moderately
3 = Disagree somewhat
4 = Unsure
5 = Agree somewhat
6 = Agree moderately
7 = Agree strong

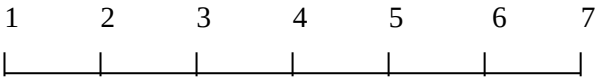
1.	John scares me	1	2	3	4	5	6	7
2.	I feel for him	1	2	3	4	5	6	7
3.	I feel angry	1	2	3	4	5	6	7
4.	I feel uncomfortable	1	2	3	4	5	6	7
5.	He makes me feel insecure	1	2	3	4	5	6	7
6.	I feel irritated by him	1	2	3	4	5	6	7
7.	I feel sorry for him	1	2	3	4	5	6	7
8.	I feel annoyed by him	1	2	3	4	5	6	7
9.	I feel the need to help	1	2	3	4	5	6	7

2. Many people experience problems such as John's. Please indicate the extent to which you agree that the following are a likely reason for problems such as John's in *anyone*, using the same scale.

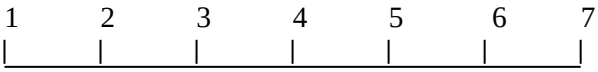
1.	negative life event, such as death of a loved one	1	2	3	4	5	6	7
2.	disease in the brain	1	2	3	4	5	6	7
3.	lack of will power	1	2	3	4	5	6	7
4.	possession by spirits	1	2	3	4	5	6	7
5.	family or relationship problems	1	2	3	4	5	6	7
6.	financial or work related stress	1	2	3	4	5	6	7
7.	punishment for own past wrongdoings	1	2	3	4	5	6	7
8.	victim of abuse in childhood	1	2	3	4	5	6	7
9.	genetic factors	1	2	3	4	5	6	7
10.	taking illegal drugs	1	2	3	4	5	6	7
11.	lack of parental love and support	1	2	3	4	5	6	7
12.	punishment for parents' wrongdoings	1	2	3	4	5	6	7
13.	chemical imbalance	1	2	3	4	5	6	7
14.	internal psychological struggles	1	2	3	4	5	6	7
15.	being from a single-parent family	1	2	3	4	5	6	7
16.	expecting too much of self	1	2	3	4	5	6	7
17.	a test from God / Allah	1	2	3	4	5	6	7

3. Please rate what you think is the likely prognosis for someone like John, either under 'optimal treatment' or 'without treatment'. A poor prognosis means that the probability of people recovering is not good, and a good prognosis means that people are likely to recover.

Under optimal treatment



Without treatment



4. indicate how much you think the following statements are true for someone like John, using this scale:

1 = Disagree strongly
2 = Disagree moderately
3 = Disagree somewhat
4 = Unsure
5 = Agree somewhat
6 = Agree moderately
7 = Agree strongly

1.	John is aggressive	1	2	3	4	5	6	7
2.	he has no self control	1	2	3	4	5	6	7
3.	he is dangerous	1	2	3	4	5	6	7
4.	he is unpredictable	1	2	3	4	5	6	7
5.	he is frightening	1	2	3	4	5	6	7
6.	he depends on other people	1	2	3	4	5	6	7
7.	he is helpless	1	2	3	4	5	6	7
8.	he is needy	1	2	3	4	5	6	7
9.	people like John are generally highly intelligent	1	2	3	4	5	6	7
10.	people like John are often more creative than other people	1	2	3	4	5	6	7
11.	people like John are more likely to be artists	1	2	3	4	5	6	7

5. Please indicate your agreement with the following statements, using the same scale:

1.	I would be happy to move next door to someone like John	1	2	3	4	5	6	7
2.	I would be happy to spend an evening socialising with someone like him	1	2	3	4	5	6	7
3.	I would be happy to work closely with someone like him	1	2	3	4	5	6	7
4.	I would be happy to make friends with someone like him	1	2	3	4	5	6	7
5.	I would be happy for someone like John to marry into my family	1	2	3	4	5	6	7

6. Have you ever heard of bipolar disorder/manic depression before? Yes / No

7. Have you ever heard of a different diagnostic term for the symptoms described in the case study? Yes / No

If 'yes' please specify …….

8. Have you ever had problems similar to John's? Yes / No

9. Has anyone in your family or close circle of friends ever had problems similar to John's? Yes / No

10. Have you ever had a job that involved providing services to a person with problems similar to John's? Yes / No

James is 24 and has a diagnosis of **schizophrenia/integration disorder.** Over recent months he has spent lots of time alone, locked in his house, and has stopped washing and taking care of his appearance. He has become increasingly convinced that people can read his thoughts, which makes him feel very frightened. Before he stopped going out, whenever he talked to anyone he would only talk about whether they thought people could read other people's thoughts, as this had become his sole concern. When he is at home alone he will also frequently hear people talking to him. Sometimes they will give him instructions and at other times they will talk to each other, and make fun of whatever he was doing at the time. James will talk back to these voices, often getting angry and telling them to 'stop'. When he talks his speech is very disorganised, and it is difficult to make out what he is saying. This is not the first time James has had experiences like these, but on this occasion he is much more frightened as the voices are more aggressive than they used to be. He will also sometimes feel low in mood, lacking in motivation and will not talk much.

1. Please rate how you feel after reading this, using this scale:

1 = Disagree strongly
2 = Disagree moderately
3 = Disagree somewhat
4 = Unsure
5 = Agree somewhat
6 = Agree moderately
7 = Agree strongly

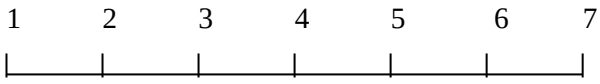
1.	James scares me	1	2	3	4	5	6	7
2.	I feel for him	1	2	3	4	5	6	7
3.	I feel angry	1	2	3	4	5	6	7
4.	I feel uncomfortable	1	2	3	4	5	6	7
5.	He makes me feel insecure	1	2	3	4	5	6	7
6.	I feel irritated by him	1	2	3	4	5	6	7
7.	I feel sorry for him	1	2	3	4	5	6	7
8.	I feel annoyed by him	1	2	3	4	5	6	7
9.	I feel the need to help him	1	2	3	4	5	6	7

2. Many people experience problems such as James'. Please indicate the extent to which you agree that the following are a likely reason for problems such as James' in *anyone,* using the same scale.

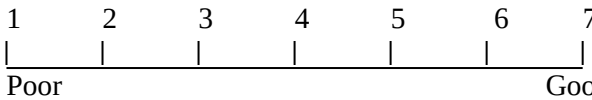
1.	negative life event, such as death of a loved one	1	2	3	4	5	6	7
2.	disease in the brain	1	2	3	4	5	6	7
3.	lack of will power	1	2	3	4	5	6	7
4.	possession by spirits	1	2	3	4	5	6	7
5.	family or relationship problems	1	2	3	4	5	6	7
6.	financial or work related stress	1	2	3	4	5	6	7
7.	punishment for own past wrongdoings	1	2	3	4	5	6	7
8.	victim of abuse in childhood	1	2	3	4	5	6	7
9.	genetic factors	1	2	3	4	5	6	7
10.	taking illegal drugs	1	2	3	4	5	6	7
11.	lack of parental love and support	1	2	3	4	5	6	7
12.	punishment for parents' wrongdoings	1	2	3	4	5	6	7
13.	chemical imbalance	1	2	3	4	5	6	7
14.	internal psychological struggles	1	2	3	4	5	6	7
15.	being from a single-parent family	1	2	3	4	5	6	7
16.	expecting too much of self	1	2	3	4	5	6	7
17.	a test from God / Allah	1	2	3	4	5	6	7

3. Please rate what you think is the likely prognosis for someone like James, either under 'optimal treatment' or 'without treatment'. A poor prognosis means that the probability of people recovering is not good, and a good prognosis means that people are likely to recover.

Under optimal treatment



Without treatment



4. Indicate how much you think the following statements are true for someone like James, using this scale:

1 = Disagree strongly
2 = Disagree moderately
3 = Disagree somewhat
4 = Unsure
5 = Agree somewhat
6 = Agree moderately
7 = Agree strongly

1.	James is aggressive	1	2	3	4	5	6	7
2.	he has no self control	1	2	3	4	5	6	7
3.	he is dangerous	1	2	3	4	5	6	7
4.	he is unpredictable	1	2	3	4	5	6	7
5.	he is frightening	1	2	3	4	5	6	7
6.	he depends on other people	1	2	3	4	5	6	7
7.	he is helpless	1	2	3	4	5	6	7
8.	he is needy	1	2	3	4	5	6	7
9.	people like James are generally highly intelligent	1	2	3	4	5	6	7
10.	people like James are often more creative than other people	1	2	3	4	5	6	7
11.	people like James are more likely to be artists	1	2	3	4	5	6	7

5. Please indicate your agreement with the following statements, using the same scale:

1.	I would be happy to move next door to someone like James	1	2	3	4	5	6	7
2.	I would be happy to spend an evening socialising with someone like him	1	2	3	4	5	6	7
3.	I would be happy to work closely with someone like him	1	2	3	4	5	6	7
4.	I would be happy to make friends with someone like him	1	2	3	4	5	6	7
5.	I would be happy for someone like James to marry into my family	1	2	3	4	5	6	7

6. Have you ever heard of schizophrenia/integration disorder before? Yes / No

7. Have you ever heard of a different diagnostic term for the symptoms described in the case study? Yes / No

If 'yes' please specify
…….

8. Have you ever had problems similar to James'? Yes / No

9. Has anyone in your family or close circle of friends ever had problems similar to James'? Yes / No

10. Have you ever had a job that involved providing services to a person with problems similar to James'? Yes / No

About you:

1. Do you know anyone who experiences mental health problems? Yes / No

Type of mental health problem (if you know several people please list them all):

……. ……..
……. ……..
……. ……..

2. If 'yes', in what capacity to you know them? (e.g. sibling, distant cousin, fellow pupil, colleague etc)

If you know several people, please refer to the person closest to you.

……

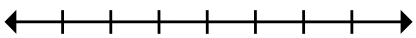
3. How often do you see this person?

On average …… times per month / year (please delete)

4. How close is this person to you?

(Please circle the corresponding point on the line)

Not at all close Extremely close



5. Have you ever been given a diagnosis of:

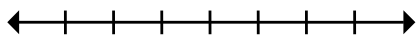
Bipolar Disorder	Yes/No
Schizophrenia	Yes/No

6. Has anyone in your family or close circle of friends ever been given a diagnosis of:

Bipolar Disorder	Yes/No
Schizophrenia	Yes/No

7. Have you ever had a job that involves providing services for people with a diagnosis of:

Bipolar Disorder	Yes/No
Schizophrenia	Yes/No

Male / Female	Age:	Occupation:
Ethnicity: White British ☐ White Other, please specify …… Black British ☐ Black African Caribbean ☐ Black African ☐ Black Other ☐ Indian ☐ Pakistani ☐ Asian Other, please specify ……... Middle Eastern ☐ Other, please specify ……		Education: (Please tick highest) Primary School ☐ to age 16 (e.g. GCSE) ☐ to age 18 (e.g. A Levels) ☐ University degree ☐ Post-graduate ☐
Country of birth: UK / Other (please specify ……..…….) If not born in UK, age of entry to UK …… years		Do you have children? Yes / No
Religion: Christian ☐ Buddhist ☐ Hindu ☐ Jewish ☐ Muslim ☐ Sikh ☐ Non-religious / Atheist / Agnostic ☐ Other, please specify …….		How important is your religion in guiding your life? (Please circle the corresponding point on the line) Of little importance Very important 

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Prize Draw

Please enter your details here if you would like to be entered into the Prize Draw – you will have a chance of winning £100 in vouchers of a shop of your choice. On receipt your name and contact details will immediately be separated from your other responses and your responses will be kept anonymous.

Name:……..
Telephone Number: ……
Email address:…….

Please enter the e-mail address or name of the person who told you about this study. Their name and contact details will immediately be separated from your other responses.

Name:…….....
Email address:……

Appendix E:

Factor Analysis on Causal Belief Items

Table E1

Rotated Factor Matrix for Final 15 Causal Belief Items

Item	Psychosocial BD / SZ	Fate BD / SZ	Biomedical BD / SZ
1. negative life event, such as death of a loved one	0.79 / 0.79		
2. disease in the brain			0.65 / 0.68
3. lack of will power		- 0.56 / -0.60	
4. possession by spirits		-0.68 /- 0.67	
5. family or relationship problems	0.87 / 0.88		
6. financial or work related stress	0.81 / 0.82		
7. punishment for own past wrongdoings		-0.79 / -0.78	
8. victim of abuse in childhood	0.78 / 0.8		
9. genetic factors			0.81 / 0.76
10. lack of parental love and support	0.76 / 0.76		
11. punishment for parents' wrongdoings		-0.77 / -0.77	
12. chemical imbalance			0.81 / 0.8
13. internal psychological struggles	0.57 / 0.52		
14. expecting too much of self	0.62 / 0.62		
15. a test from God / Allah		-0.64 / -0.67	

Note. BD=Bipolar Disorder; SZ=Schizophrenia. Eigenvalues for the bipolar disorder vignette: Psychosocial 4.47, Fate 2.34, Biomedical 1.57; for schizophrenia vignette: Psychosocial 4.47, Fate 2.20, Biomedical 1.74.

Appendix F:

Factor Analysis on Stereotype Items

Table F1

Rotated Factor Matrix for 11 PAS Items

Item	Dangerousness BAD / SZ	Dependency BAD / SZ	Intelligence / Creativity BAD / SZ
1. John/James is aggressive	0.79 / 0.80		
2. he has no self-control	0.61 / 0.65		
3. he is dangerous	0.84 / 0.85		
4. he is unpredictable	0.57 / 0.78		
5. he is frightening	0.80 / 0.83		
6. he depends on other people		0.81 / 0.74	
7. he is helpless		0. 71 / 0.71	
8. he is needy		0.82 / 0.81	
9. people like John/James are generally highly intelligent			0.85 / 0.85
10. people like John/James are often more creative than other people			0.94 / 0.94
11. people like John/James are more likely to be artists			0.88 / 0.87

Note. BD=Bipolar Disorder; SZ=Schizophrenia. Eigenvalues for the bipolar disorder vignette: Dangerousness 3.43, Dependency 1.18, Intelligence/Creativity 2.29; for schizophrenia vignette: Dangerousness 3.67, Dependency 1.23, Intelligence/Creativity 2.34.

Appendix G:

Email Confirmation of Ethical Approval

From: Viding, Essi
Sent: 05 March 2012 17:04
To: Scior, Katrina; Mason, Oliver; Ellison, Nell
Subject: ethics approval

Dear Katarina,

The CEHP RD Ethics Chair has approved your application.

Researchers: Katarina Scior, Nell Ellison, Oliver Mason
Number: CEHP/2012/012
Title: Public attitudes towards Bipolar Disorder and Schizophrenia and the effect of renaming conditions on stigma
Please do make sure that the data you gather are stored anonymously.

Please remember, in general to observe the Code of ethics and conduct. Leicester: The British Psychological Society, March 2006,
and in particular to follow the 'Guidelines for minimum standards of ethical approval in psychological research'. Leicester: The British Psychological Society, July 2004 when conducting your research.

Yours sincerely,

Essi Viding

CEHP RD Ethics Chair

Appendix H:

Assessing Whether Randomisation Resulted in Random Groups

Table H1

Comparisons between the Eight Groups on all Demographic and Familiarity Variables

Variable	Statistic	*p*
Age	$F = 1.02$	0.42
Gender	$\chi^2 = 7.60$	0.37
Ethnicity	$\chi^2 = 30.45$	0.34
Religion	$\chi^2 = 4.41$	0.73
Education	$\chi^2 = 3.03$	0.89
Contact with bipolar disorder	$\chi^2 = 13.97$	0.06
Contact with schizophrenia	$\chi^2 = 12.33$	0.09