The Influence of Diagnostic Labels on Stigma toward People with Schizophrenia and Intellectual Disability

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Overview

This thesis is presented in three parts. The overall focus of the thesis is the general public's stigmatising reactions toward people with schizophrenia and people with intellectual disability.

Part one presents a systematic review of research that investigates the public's emotional reactions to people with mental health problems. Emotional reactions are a specific facet of stigma and have received relatively little attention in published studies despite featuring in theoretical models of stigma. The review highlights that emotional reactions are an important part of the stigma process and are potentially amenable to change. It is concluded that further investigation of emotional reactions in stigma research is warranted.

Part two is an empirical paper that investigates the effects of diagnostic labelling on stigma toward people with schizophrenia and intellectual disability. Stigma is conceptualised using the framework of attribution theory (Weiner, 1980). Accordingly, specific attention is given to the effects of labelling on the general public's beliefs about the causes of schizophrenia and intellectual disability, emotional reactions to people who experience these difficulties and desire for social distance.

Part three is a critical appraisal of the investigation presented in the empirical paper. Consideration is given to a number of conceptual and methodological issues pertinent to this study in particular, and to public stigma research more generally. The appraisal concludes with some personal reflections on the experience of conducting the project.

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Part One: Literature Review

Emotional reactions to people with mental health problems, with particular focus

on schizophrenia and depression: a review of the literature

Abstract

Aims: The general public's emotional reactions toward people with mental health problems are relatively neglected in research literature on stigma. The purpose of the current paper is to review what is known to date.

Method: The academic literature was searched via PsycINFO, Web of Science and Medline to identify peer-reviewed articles that consider the public's emotional reactions to people with mental health problems generally, or depression and schizophrenia specifically.

Results: 30 studies were reviewed. The general public expresses mostly pity towards people with mental health problems, especially those with depression. Emotional reactions have a variety of correlates, including stereotypes and familiarity with mental health problems. More positive emotional reactions are expressed by females, and people with greater educational attainments.

Conclusions: Further research should aim to address limitations in the measurement of emotional reactions. The findings should be used to refine anti-stigma interventions.

Introduction

Stigma is a key concern for many people who have experienced mental health problems and their families (Jorm & Oh, 2009). Stigma has been conceptualised as a triad of stereotypes, prejudice and discrimination (Corrigan & Watson, 2002), also termed problems of knowledge, attitudes and behaviour (Thornicroft, Rose, Kassam & Sartorius, 2007). While stereotypes are belief structures, and discrimination is a behavioural response, prejudice is both a cognitive and affective response. Prejudice refers to a sequence consisting of endorsement of negative stereotypes, evaluation and judgement of the stigmatised group and the generation of negative emotional reactions such as anxiety, anger, resentment, hostility, distaste or disgust. 'Public stigma' refers to these reactions in the general population, whereas the concept of 'self-stigma' describes the internalisation of prejudice (Corrigan & Watson, 2002).

While some facets of public stigma have been measured with relative consistency, such as the intention to maintain social distance from people with mental health problems (Jorm & Oh, 2009), the role of emotional reactions has been largely overlooked by researchers. This is despite featuring in contemporary conceptualisations of public stigma.

The role of emotional reactions in mediating the impact of beliefs on behaviour has been highlighted in Corrigan et al.'s (2002) model of public stigma. This model was informed by attribution theory. Attribution theory assumes that individuals are motivated to search for causal understandings of events and, in turn, these understandings influence their emotional and behavioural responses (Weiner, 1980). Attributions about the cause of a negative event may also lead to inferences about responsibility (Weiner, 1995). Inferring that an individual is responsible for a negative event may trigger anger and consequently diminish helping behaviour, whereas if the

individual is not held responsible others are likely to feel pity and thus forth a desire to help (Corrigan et al., 2002). An additional pathway specific to mental health problems to account for beliefs about dangerousness has also been proposed (Corrigan et al., 2002; Corrigan, Markowitz, Watson, Rowan & Kubiak, 2003). Three proposed pathways in which emotional reactions mediate between attributions and behavioural responses are outlined in Figure 1:

Attribution About Mental Health Problem	Judgement of Individual	Affective Response	Behavioural Response
Within individual's control →	Responsible →	Anger →	Punishment
Not within individual's control →	Not responsible →	Pity / Sympathy →	Help
Dangerous →	Responsible →	Fear →	Social Distance Punishment
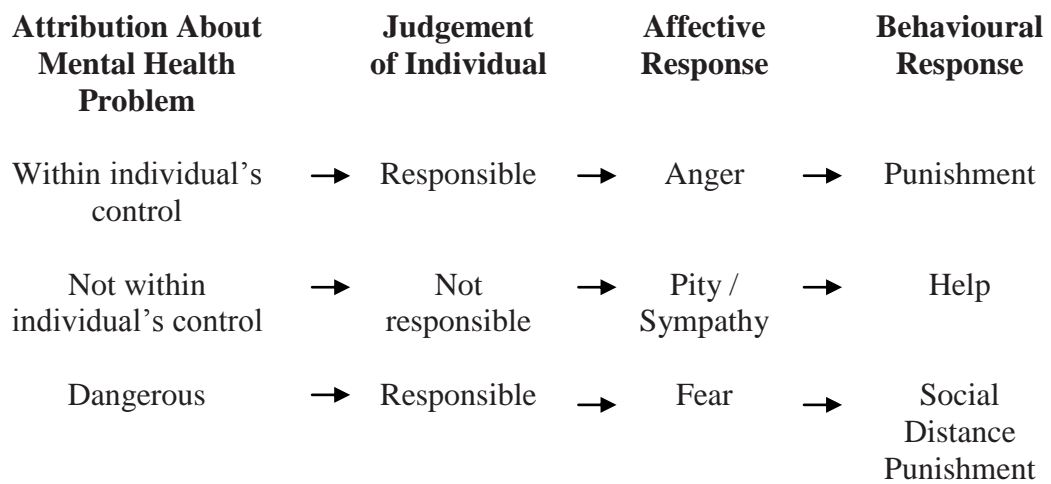
Figure 1: Attribution Model of Public Stigma toward People with a Mental Health Problem (Corrigan et al., 2003).

In this way, negative attributions and stereotypes may result in negative judgments and negative emotional reactions toward people with mental health problems, the combined result of which is discriminatory behaviours. The model raises the question of what reactions might be expected when an individual is considered to be dangerous but is not held responsible for the cause of their problem.

A different, but not mutually exclusive, model of stigma evolved from Link and Phelan's (2001) conceptualisation of stigma to encompass the role of emotional reactions (Link, Yang, Phelan & Collins, 2004). Three components of stigma were emphasised: identifying social differences, linking differences to negative stereotypes

(e.g. a person hospitalised for mental health problems can be violent) and establishing separation between "us" and "them". Emotional reactions, which may be trivial or intense, are thought to feature in each of the three processes and may include anger, irritation, anxiety, pity and fear. Furthermore Link et al. (2004) stressed that the ways in which the general public behaves in response to their emotional reactions results in discrimination and loss of status for people with mental health problems.

Thus contemporary models of stigma of mental health problems concur that negative emotional reactions contribute to discriminatory behaviours that limit the quality of life and opportunities available to people with a mental health problem. Research has found negative effects of stigma, for example, on personal relationships, parenting, childcare, education and training, employment and housing (Thornicroft, 2006).

Of further importance, emotional reactions may inform individuals with mental health problems how they are perceived. A person who feels pity and anxiety may, for example, speak in a soft calm tone to a person with a mental health problem, thus signalling to the person with a mental health problem that he or she is perceived as different (Link et al., 2004). People with a mental health problem may internalise negative reactions and prejudice (self-stigma), which can adversely affect self-concept and self-esteem (Corrigan & Watson, 2002). The ways in which individuals with mental health problems respond to others' emotional reactions toward them may further exacerbate public misconceptions, forming a vicious cycle (Angermeyer, Holzinger & Matschinger, 2010). Unfortunately this process has not yet been specified in more detail.

Despite affective responses featuring in current models of stigma and the widespread impact they are believed to have on people with mental health problems,

to date a systematic review focused on emotional reactions toward people with mental health problems has not been published. Some of the relevant literature was reviewed by Angermeyer et al. (2010) at the beginning of their article, but their search was not systematic and focused on their own research. As emphasised by Thornicroft et al. (2007), emotional reactions need to be better understood in order to guide interventions that effectively increase social inclusion.

The purpose of the present review is to develop our understanding of public stigma by evaluating existing evidence about emotional reactions. The ways the adult general public react to people with a mental health problem generally, or schizophrenia or depression specifically, will be the focus of this review. The following questions will be addressed:

1) How are emotional reactions toward people with mental health problems measured?

2) Do different mental health problems elicit different emotional responses?

3) What factors are associated with emotional reactions toward people with mental health problems?

4) Is there any evidence that emotional reactions can be modified by anti-stigma interventions?

Method

Search Strategy

The literature was systemically searched to identity publications that included the study of the public's emotional reactions toward mental health problems. The electronic databases PsycINFO, Web of Science and Medline were searched for the period of January 1990 to September 2010.

Search Terms

The search terms focused on three domains: emotional reactions, responses of the general public and mental health problems, presented below in Table 1.

Table 1

Literature Review Search Terms

Emotional Reactions	Responses of the General Public	Mental Health Problems
Emotional reaction*	Public stigma*	Mental illness
Affective reaction*	Public attitude*	Schizophrenia
Fear	Public discrimination	Depression
Anger	Public belief*	
Pity	Public opinion*	
	Social attribution	
	Mental illness stigma	

* indicates terms that were truncated to allow for multiple endings of words.

The word 'stigma' was always combined with other search terms to identify articles relevant to this review.

The search specified that all two or three-word terms appeared adjacently. Parameters were set to search for articles that contained at least one search term from each of the three domains. Keyword searches of the same terms were used in each database.

Inclusion and Exclusion Criteria

Retrieved articles were evaluated against the following criteria to determine suitability for this review.

Inclusion Criteria

To be included in the review, articles must:

- Be published in English, in a peer-reviewed journal to control for quality.

- Be published between January 1990 and September 2010.

- Describe a study that measures at least one emotional reaction of adults in the general population toward people with mental health problems.

- Be empirically based, including quantitative or qualitative methodologies.

- Focus on mental health problems generally, comparison of several mental health problems or focus specifically on schizophrenia or depression.

Exclusion Criteria

The following criteria were used to exclude studies from the current review:

- Studies exploring the emotional reactions of professional groups, the relatives of people with mental health problems and people who experience self-stigma or expect to be stigmatised because of their mental health problem.

- Studies focused on stigma toward specific "mental disorders" other than schizophrenia or depression, for example Autistic Spectrum Disorders or Alzheimer's.

- Articles presenting theoretical models or review articles.

Additional papers were found by searching the reference lists of the retrieved studies and a hand-search of Schizophrenia Bulletin was conducted as the electronic database search indicated this journal contained the most relevant articles. The same inclusion and exclusion criteria were applied to determine the suitability of these papers.

All studies were selected for review by reading the article abstracts or the full paper in instances when the abstract did not provide sufficient detail.

Results

      The search strategy produced a total of 30 papers that measured emotional reactions of the general public toward mental health problems. The database searches identified 70 studies that combined all three domains of search terms. Of these studies, 23 met the inclusion criteria. One of these articles was excluded because it repeated findings reported elsewhere (Corrigan, 2002). An additional eight articles were sourced from the reference lists of the remaining studies. No further articles were identified from a hand search of Schizophrenia Bulletin.

      The results of the search are summarised in Table 2, followed by a detailed review of the literature.

Table 2

Articles that assess the general public's emotional reactions to people with mental health problems

Authors	Country	Sample	Measurement of Emotional Reactions	Type of Problem	Associated Variables
Angermeyer, Holzinger & Matschinger (2010)	Germany	N=3067, N=2094, N=5025 general population	12-item emotional reaction scale in response to a vignette	depression schizophrenia	1) Familiarity 2) perceived dangerousness 3) social distance
Angermeyer & Matschinger (1997)	Germany	N=over 21,000 general population	12-item emotional reaction scale in response to a vignette	depression schizophrenia	1) familiarity 2) social distance
Angermeyer, Matschinger & Holzinger (1998)	Germany	N=3067 general population	18-item emotional reaction scale in response to a vignette	depression schizophrenia	1) gender of person in vignette 2) participant gender
Angermeyer & Matschinger (2003a)	Germany	N=5025 general population	12-item emotional reaction scale in response to a vignette	depression schizophrenia	1) beliefs about causes and prognosis 2) definition of problem 3) perceived dangerousness and dependency 4) participant age, education and gender
Angermeyer & Matschinger (2003b)	Germany	N=5025 general population	9-item emotional reaction scale in response to a vignette	depression schizophrenia	1) definition of problem 2) perceived dangerousness and dependency 3) social distance
Angermeyer & Matschinger (2004)	Germany	N=2153 general population	12-item emotional reaction scale in response to a vignette	depression	1) definition of problem 2) participants education and gender 3) social distance

Angermeyer, Matschinger & Corrigan (2004)	Germany	N=5025 general population	12-item emotional reaction scale in response to a vignette	depression schizophrenia	1) familiarity 2) perceived dangerousness 3) social distance
Arthur et al. (2010)	Jamaica	N=125 general population	Thematic analysis of focus group discussions	mental illness	1) behavioural responses 2) beliefs about mental health problems
Brockington, Hall, Levings & Murphy (1993)	UK	N=987 general population	16 items of Community Attitudes toward the Mentally Ill inventory	mental illness	1) familiarity 2) participant education
Brown (2008)	North America	N=774 psychology undergraduate students	27-item Attribution Questionnaire in response to a vignette	schizophrenia	1) affect scale 2) participant gender 3) perceived dangerousness 4) social distance
Cooper, Corrigan & Watson (2003)	North America	N=79 college students	27-item Attribution Questionnaire in response to a vignette	schizophrenia	1) attitudes toward seeking professional help
Corrigan, Green, Lundin, Kubiak & Penn (2001)	North America	N=208 college students	21-item Attribution Questionnaire	mental illness	1) familiarity 2) perceived dangerousness 3) social distance
Corrigan, Larson-Sells, Niesson & Watson (2007)	North America	N=244 college students	Modified Attribution Questionnaire	schizophrenia	1) exposure to anti-stigma interventions
Corrigan, Markowitz, Watson, Rowan & Kubiak (2003)	North America	N=518 college students	Attribution Questionnaire in response to a vignette	schizophrenia	1) familiarity 2) participant age, education and gender 3) perceived responsibility 4) treatment beliefs

Corrigan et al. (2002)	North America	N=213 college students	20-item modified Attribution Questionnaire	mental illness	1) helping behaviour 2) perceived dangerousness and responsibility
Corrigan, Watson, Warpinski & Gracia (2004)	North America	N=161 college students	Attribution Questionnaire in response to a vignette	schizophrenia	1) exposure to education programmes
Crespo, Pérez-Santos, Munoz & Guillén (2008)	Spain	N=439 general population	27-item Attribution Questionnaire	psychosis	n/a
Dietrich, Matschinger & Angermeyer (2006)	Germany	N=5025 general population	12-item emotional reaction scale in response to a vignette	depression schizophrenia	1) beliefs about causes 2) perceived dangerousness 3) social distance
Flanagan & Davidson (2009)	North America	N=15 community members with relevant experience	Interview	schizophrenia	1) identification of people with mental health problems
Halter (2004)	North America	N=117 community members in primary health setting	Attribution Questionnaire following vignette	depression	1) attitudes toward seeking professional help 2) participant gender 3) perceived dangerousness and responsibility 4) social distance 5) treatment beliefs
Högberg, Magnusson, Ewertzon & Lützén (2008)	Sweden	N=256 student nurses	Community Attitudes toward the Mentally Ill inventory	serious mental illness	n/a
Kabir, Iliyasu, Abubakar & Aliyu (2004)	Nigeria	N=250 general population	Semi-structured questionnaire: beliefs and attitudes about mental illness	mental illness	1) attitudes toward mental health problems 2) participant gender and education

Murphy, Black, Duffy, Kieran & Mallon (1993)	Ireland	N=155 general population	Questionnaire: beliefs and attitudes about mental illness	mental illness	1) familiarity 2) participant age, education, gender and socio-economic status 3) perceived knowledge
Peluso & Blay (2009)	Brazil	N=500 general population	8-item emotional reaction scale in response to a vignette	depression	1) gender of person in vignette 2) label of problem 3) perceived dangerousness
Penn et al. (1994)	North America	N=329 undergraduate students	Affect Scale in response to a vignette	schizophrenia	1) level of information provided
Penn, Chamberlin & Mueser (2003)	North America	N=163 undergraduate students	Affect Scale in response to a vignette	schizophrenia	1) effect of education film
Penn & Nowlin-Drummond (2001)	North America	N=190 undergraduate students and general population	Affect Scale in response to a vignette	schizophrenia	1) label of problem 2) type of sample
Vezzoli et al. (2001)	Italy	N=303 general population	Modified version of Community Attitudes toward the Mentally Ill inventory	mental illness	1) contact 2) participant education
Wolff, Pathare, Craig & Leff (1996a)	UK	N=215 general population	Community Attitudes toward the Mentally Ill inventory	mental illness	1) social distance
Wolff, Pathare, Craig & Leff (1996b)	UK	N=215 general population	Community Attitudes toward the Mentally Ill inventory	mental illness	1) social distance

How Are Emotional Reactions to People with Mental Health Problems

Measured?

Emotional reactions to people with mental health problems were assessed by a questionnaire specifically designed for this purpose in 12 studies and were embedded in scales that included other aspects of stigma in 16 studies. All these measures restricted responses to a limited selection of emotional reactions. Only one study asked an open-ended question about feelings and another study did not explicitly ask about these, but emotional responses featured in the thematic analysis.

A measure in which participants rate their emotional reactions to a case vignette depicting a person with a mental health problem was developed by Angermeyer and Matschinger (1997). Versions of this measure featured in eight of their articles and a modified version was used in one other study without psychometric validation (Peluso & Blay, 2009). Each of the nine to 18 emotional reactions is measured on a five-point Likert scale. Statistical analyses reported by the authors consistently revealed that the items load on three factors, namely 'fear', 'pity' and 'anger', each with good internal consistency (Cronbach's alpha ranging from .74 to .97). The dimension 'fear' typically consisted of uneasiness, fear, insecurity and embarrassment. 'Pity' referred to desire to help, empathy, pity, sympathy and compassion. 'Anger' included ridicule, anger, irritation and lack of understanding. A prominent issue is the conceptualisation of pity as a positive reaction, which appeared to be defined as such by the researchers rather than people with mental health problems. Also of note, desire to help had the highest loading on the pity factor across studies, but this is arguably a behavioural intention rather than an emotion and was found by Peluso and Blay (2009) to be an independent factor.

Despite these concerns, the measure has good psychometric properties and experimental manipulation is easily possible by modifying the vignette.

The Affective Reaction Scale is also a measure that specifically focuses on emotional reactions (Penn, Chamberlin & Mueser, 2003; Penn et al., 1994; Penn & Nowlin-Drummond, 2001). In response to a case vignette, participants rate the presence of ten bipolar pairs of emotions (such as calm and nervous) presented on a seven-point Likert scale. The scale presents a wide range of emotions, yet responses are simply summed into a composite score of negative emotional response. Thus whilst good internal consistency has been reported (Cronbach's alpha =0.83, Penn et al., 2003), thorough analysis of emotional reactions is not possible. Scores on the Affective Reaction scale have been found to be correlated with the factors 'fear/dangerousness' and 'negative emotions' of the Attribution Questionnaire, but not the 'empathy' factor (Brown, 2008). As with other measures that use case vignettes, further research is needed to determine whether the content (evaluated by professionals) is salient enough to elicit emotions the general public may experience in real life situations.

Most studies assessed emotional reactions using measures that also considered other aspects of stigma, such as intended behavioural responses toward people with a mental health problem. Of these measures, the Attribution Questionnaire most explicitly differentiated emotional reactions from other responses. The Attribution Questionnaire featured in ten studies. Factor analysis revealed separate dimensions for the emotional reactions of 'pity', 'anger' and 'fear' (Corrigan, Watson, Warpinski & Gracia, 2004) and these three factors had high reliability (Cronbach's alphas for pity =.74, anger =.89 and fear =.96). However, three somewhat different factors were found by to be related to emotions by Brown

(2008), which included 'fear and dangerousness', a factor that referred to beliefs as well as emotions. It is possible different factors emerged because the sample was formed entirely of students, mostly young and Caucasian, who were studying psychology and thus may have understood and reacted to mental health problems differently to the wider population.

Studies using the Community Attitudes to the Mentally Ill (CAMI) inventory (Taylor & Dear, 1981) commonly analysed a subset of the items, including only four items at most that explicitly referred to emotions (Brockington, Hall, Levings & Murphy, 1993; Wolff, Pathare, Craig & Leff, 1996a; 1996b). In a version of the CAMI adapted for use in Sweden, six items associated with fear emerged in the factor analysis (Högberg, Magnusson, Ewertzon & Lützén, 2008). Another modified version of the CAMI inventory paid greater attention to emotions, asking participants to rate what they feel when they see a psychiatric patient (Vezzoli et al., 2001). However, no reliability or validity data were reported, the response options were based on a pilot of only 30 people and the question assumed that participants see people they think are mentally ill, but up to 21.9% of participants reported that they had never knowingly met a psychiatric patient. Items in all versions of the CAMI inventory are worded so that emotional reactions are measured in relation to proximity to people with mental health problems (e.g. "It's frightening to think of people with mental problems living in residential areas"), so the inventory does not effectively distinguish between general emotional reactions to people with mental health problems and desire for social distance.

It was difficult to distinguish whether beliefs or emotions were activated in Murphy, Black, Duffy, Kieran and Mallon's (1993) study, perhaps because the authors did not emphasise emotions. The factor 'fear' had good face validity, but the

'sympathy' factor was a summation of beliefs with no direct assessment of sympathetic feelings and the 'community rejection' factor combined behavioural intentions with the emotions repulsion and fear. Emotions and beliefs were not explicitly differentiated by Kabir, Iliyasu, Abubakar and Aliyu (2004) either, even though five of the nine items of their attitude scale clearly referred to emotional reactions (fear, anger, hostility, indifference and sympathy).

One study used an open-ended question, asking "How do people with mental illness make you feel?" (Flanagan & Davidson, 2009). The open question generated more diversity in responses, including descriptions such as "my heart goes out". These reactions were omitted from the analysis, which focused on beliefs and behavioural responses, meaning it is difficult to evaluate the qualities of this approach. Only one of the 30 studies reporting emotional reactions exclusively used qualitative methodology, which was carried out in Jamaica (Arthur et al., 2010). Emotional reactions were not included within the key questions to guide discussion, yet emerged as one of the four overarching themes of the 16 focus groups. Unlike the quantitative measures, discussion enabled participants to express complexities in their emotional responses, such as sympathy in the presence of fear. The emotions reported by the Jamaican participants were more detailed but relatively similar to those included in western, quantitative studies.

While all the above measures have good face validity, one issue common to all assessments of emotional reactions is perceived pressure to give socially desirable responses, a concern expressed in many studies. Features of many studies likely to exacerbate this are the presence of researchers and the use of scales because the politically correct response may be readily identifiable (e.g. to offer help rather than express anger).

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In summary, emotional reactions to people with mental health problems are predominantly assessed in response to case vignettes with reference to the very broad category of 'people with mental health problems' using questionnaires that offer a range of pre-defined responses. The emotional reactions of pity, fear and anger are detected across many studies. Although this method enables the use of psychometrically validated measurement tools, detection of complex emotional reactions is sacrificed and further research using qualitative methods is needed. Emotional reactions are commonly assessed alongside other aspects of stigma and therefore it is often difficult to differentiate between affective, cognitive and behavioural responses. Given the emphasis on the role of emotional reactions in contemporary models of stigma, research should aim to specifically delineate emotions.

Do Different Mental Health Problems Elicit Different Emotional Responses?

Comparisons can only be made between depression and schizophrenia because the search strategy did not elicit studies that considered emotional reactions to other mental health problems. In studies that assess both problems, pity is the most frequently reported emotional reaction to both depression and schizophrenia (Angermeyer & Matschinger, 2003a; 2004). Significantly less empathy, pity and desire to help were expressed in response to a vignette depicting a person with schizophrenia in Angermeyer and Matschinger's (2003a) study, whereas Crespo, Pérez-Santos, Munoz and Guillén (2008) found that psychosis received greater ratings of pity. Of interest, both studies concluded schizophrenia attracts more negative reactions than depression; Angermeyer and Matschinger (2003a) considered a less sympathetic response to signify greater stigma, whilst Crespo et al. (2008) equated greater pity with greater stigma.

For both depression and schizophrenia, fear is reported less frequently than pity and feelings of anger are least expressed (Angermeyer & Matschinger, 2003a; 2004; Crespo et al., 2008; Flanagan & Davidson, 2009; Halter 2004; Kabir, 2004). The only exception to this pattern is one study that found irritation toward people with depression to be more frequent than fear (20.4% versus 7.8%), but irritation and fear were then combined in the same factor (Peluso & Blay, 2009). The negative emotions of fear, uneasiness, insecurity, irritation and anger appear to be significantly greater toward people with schizophrenia than depression (Angermeyer & Matschinger, 2003a; Angermeyer et al., 2010). Information about the symptoms of schizophrenia, with or without a diagnostic label, was found to elicit more negative reactions than the label "depression" with no accompanying information (Penn et al., 1994). However, the design of the study meant it was unclear whether the participants were reacting negatively to the features of schizophrenia or the presence of additional information.

Some studies did not focus on diagnostic groups and instead used broad categories such as "mental illness" (Brockington et al., 1993; Corrigan et al., 2001; 2002; Kabir et al., 2004; Murphy et al., 1993; Vezzoli et al., 2001; Wolff et al., 1996a; 1996b). Although this terminology does not enable comparisons between specific mental health problems, the emotional reactions expressed are comparable to studies that utilise specific diagnoses, with pity typically expressed more than fear or anger (Kabir et al., 2004; Murphy et al., 1993). While useful for research and other purposes, Arthur et al. (2010) highlighted that diagnostic labels are not necessarily the most meaningful classifications for the general public. They adopted the language spoken by the Jamaican participants in their qualitative study, using the

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words "normal", "mentally ill" and "mad" to denote different degrees of mental health problem.

Two studies explored changes in emotional reactions to depression and schizophrenia over time, comparing samples recruited from the German general population 11 years apart (Angermeyer & Matschinger, 2004; Angermeyer et al., 2010). In regard to depression, the number of participants who reacted with empathy somewhat increased over time from 59.7% to 64%, but this was mitigated by a slight increase in anger, and fear remained stable (Angermeyer & Matschinger, 2004). No positive change was observed for schizophrenia, instead fear and anger both significantly increased over the study period (Angermeyer et al., 2010). Thus it appears that public reactions to depression changed without necessarily improving and reactions to schizophrenia worsened. As results from cross-sectional surveys were compared rather than participants repeating the measures, explanations for the detected changes are limited to speculation. To date research has not examined whether these trends are common to other countries or differ due to differences in terms of media exposure and health promotion campaigns, for example.

The research reviewed thus far indicates that people most frequently express pity toward people with mental health problems, followed by fear and anger. Although these reactions do not necessarily equate to real life situations, it appears that more prosocial feelings are expressed toward people with depression whereas emotions associated with fear and anger appear to be significantly greater toward people with schizophrenia.

What Factors are Associated with Emotional Reactions Toward People with Mental Health Problems?

The findings revealed that numerous factors are associated with emotional reactions toward people with mental health problems. These included socio-demographic differences in the general population, prior experience of mental health problems, the use of diagnostic labels, beliefs about causes and treatments for mental health problems, stereotypes of dangerousness and personal responsibility and desire for social distance.

Participants' Socio-Demographic Variables

It has been reported that participants' socio-demographic variables have little effect on emotional reactions toward people with mental health problems (Angermeyer & Matschinger, 2003a), but a body of research indicates that emotional reactions may vary according to gender, age and education.

Gender

Gender differences in emotional reactions have been reported with relative consistency, with the exception of two studies (Brockington et al., 1993; Murphy et al., 1993). Women react to people with mental health problems with more positive feelings than men (Angermeyer & Matschinger, 2003a; 2004; Angermeyer et al., 1998; Corrigan et al., 2003; Kabir et al., 2004). This finding was also replicated by Brown (2008), but with the acknowledgement that the psychometric properties of the empathy factor of the measure were insufficient to support gender differences. Women's prosocial reactions have been found to be greatest in relation to women with schizophrenia (Angermeyer et al., 1998).

Women participants, however, also express more anxiety in response to people with mental health problems than men (Angermeyer & Matschinger, 2003a;

2004; Angermeyer et al., 1998). For example, Kabir et al. (2004) found that in Nigeria the majority of female participants felt fear (79.2%), whilst only a fifth of males reported feeling fearful. In a cross-sectional study comparing samples ten years apart, Angermeyer and Matschinger (2004) found that the association between being female and fearing people with depression decreased between 1990 and 2001.

Males express more aggressive feelings than women toward people with mental health problems (Angermeyer & Matschinger, 2003a; 2004; Angermeyer et al., 1998; Corrigan et al., 2003). This has been quantified by Kabir et al. (2004), who reported that males in their study mostly felt anger (96.8%), hostility (93.6%) or indifference (96%) toward people with mental health problems, whereas few females expressed anger (3.2%), hostility (6.4%) or indifference (4%). However, it was misleading to compare the samples with percentages, as only 83 women completed the survey, compared to twice as many males (n=167), with only two females reporting anger, three hostility and one indifference.

Age

No consistent effects of age on emotional reactions have emerged. In Germany emotional responses to depression or schizophrenia were not related to age (Angermeyer & Matschinger 2003a; 2004). Three studies found older people to have more positive reactions than younger people. In two of these studies older participants reported fear and anger less frequently than younger participants (Corrigan et al., 2003; Peluso & Blay, 2009) and in another study those aged 40 or over were more likely than younger participants to describe positive emotions (Arthur et al., 2010). This latter finding must be treated with some caution because the study had not aimed to quantify responses according to demographic groups so not all participants reported their affective responses. Only one study found older

people to be less sympathetic than younger people, although the older respondents were less educated and this may well have confounded any apparent effect of age (Murphy et al., 1993).

Education

Six studies suggest that higher education levels are associated with more positive emotional reactions, either through greater empathy or less anger and fear. Participants in Peluso and Blay's (2009) study with high educational attainments reported friendliness, pity and warmth most frequently. This was also reported by Murphy et al. (1993), although education did not significantly increase positive reactions independently of age. A minority of participants were formally educated (27%) in Kabir et al.'s (2004) study, but comparison of composite scores between literate and non-literate participants revealed that literate participants were seven times more likely to exhibit positive feelings toward the mentally ill. However, the authors did not state how reliably literacy status was determined and positive feelings referred to attitudes, such as tolerance, as well as affective responses. Higher education has been associated with less fear (Angermeyer & Matschinger, 2003a; 2004; Brockington et al., 1993) and anger (Angermeyer & Matschinger, 2004) than low educational achievement. One study contradicts the above findings, reporting that lower educational level (Italian elementary school) was associated with most compassion (Vezzoli et al., 2001) and two studies found no links with education (Corrigan et al., 2003; Penn & Nowlin-Drummond, 2001).

One issue in applying the results from the above research to the general population is that research participants generally tend to be better educated and it is unclear if people with less formal education are sufficiently represented to allow generalisation of the findings. Indicating that this is not particularly problematic, the

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emotional reactions of undergraduate and community samples were found to be comparable by Penn and Nowlin-Drummond (2001), but this finding was in the context of a study that found no links between emotional reactions and education.

In summary, there is adequate evidence to suggest that gender and educational background influence emotional reactions to people with mental health problems, but there is no evidence of clear associations with age. Women appear to react to people with mental health problems with more sympathetic feelings than men and less aggression, but with more anxiety and fear. Most studies that considered educational background reported that higher education levels are associated with greater empathy or less anger and fear. Men and people with less extensive educations are consistently under-represented, a challenge to confront in future research.

Familiarity with Mental Health Problems

Definitions of familiarity and personal experience vary somewhat across studies, but generally refer to an individual having experienced mental health difficulties or knowing others who have. Emotional reactions have been found to mediate half the impact of familiarity in reducing social distance from people with mental health problems (Angermeyer et al., 2010). Contrastingly, some studies found no association between familiarity and emotional reactions to people with mental health problems (Cooper, Corrigan & Watson, 2003; Murphy et al., 1993; Penn et al., 1994). However, contact with people with intellectual disability or Down's Syndrome was considered by Penn et al. (1994) to constitute familiarity with mental health problems, which may offer some explanation for why they did not find an effect. Also, emotional reactions were found by Murphy et al. (1993) to vary

according to self-reported knowledge of mental health problems, which may be a facet of familiarity.

Whilst not all research revealed an effect of familiarity on emotional reactions, some patterns have emerged. Those familiar with mental health problems express significantly more pity than others (Angermeyer & Matschinger, 1997; Corrigan et al., 2003; Vezzoli et al., 2001) and there is some evidence that the more intense the contact (e.g. personal or close relative's experience of mental health problems), the greater the tendency to have a prosocial reaction (Angermeyer & Matschinger, 1997). Personal experience is also associated with significantly less anger toward people with depression and schizophrenia (Angermeyer & Matschinger, 1997; Corrigan et al., 2003).

People with personal experience of mental health problems appear less likely to react with fear, uneasiness or embarrassment toward people with depression (Angermeyer & Matschinger, 1997; Angermeyer, Matschinger & Corrigan, 2004) or schizophrenia (Angermeyer & Matschinger, 1997; Angermeyer et al., 2004; Brockington et al., 1993; Vezzoli et al., 2001). However, by comparing dichotomies of unfamiliar versus familiar rather than gradients of familiarity, Angermeyer et al. (2004) covered the unexpected finding that people who had been mentally ill in the past felt *more* fear toward people with schizophrenia than people with a mentally ill family member. Neither Corrigan et al. (2003) nor Corrigan, Green, Lundin, Kubiak and Penn (2001) found a statistically significant association between familiarity and fear. In the latter case this may have been because 94.9% of their participants were deemed to be familiar with mental health problems through watching a film that in some way portrayed mental health problems.

Overall the current evidence base suggests that people familiar with mental health problems express significantly more pity than other people and significantly less anger and fear. However, much of the research has not considered different aspects of familiarity, such as the frequency and type of contact or the closeness of the relationship. Whether familiarity with one condition can lead to changes in response to other forms of mental health problems has received little attention.

Gender of the Person with a Mental Health Problem

The influence of the gender of a mentally ill person on emotional reactions is difficult to determine. Prosocial feelings were greater toward females than males with depression (68.4 versus 59.2%) in Peluso and Blay's (2009) study, whereas no difference was found by Angermeyer, Matschinger and Holzinger (1998). Against their hypotheses, Angermeyer, Matschinger and Holzinger (1998) reported that aggressive feelings were greater toward men with depression than women, whilst for schizophrenia more aggressive feelings were expressed toward women with schizophrenia than men. There was no evidence to suggest that the gender of the person with depression or schizophrenia affects anxiety or fear. It is unknown whether effects of gender are more apparent during real-life interactions.

Diagnostic Labels

The relationship between diagnostic labels and emotional reactions has been investigated in four studies. Participants who correctly identified a diagnostically unlabelled case description as schizophrenia or mental health problems felt more fear and less pity than participants who gave other explanations of the problem (Angermeyer & Matschinger, 2003a; 2003b). Correct identification of a description of depression has been found to decrease anger (Angermeyer & Matschinger, 2003a; 2003b; 2004), but was found to have no association with emotional reactions by

Peluso and Blay (2009). However, the other types of explanations that participants generated were not reported and it is thus unknown whether some misattributions had a greater effect on emotional reactions than others.

One study presented participants with only the diagnosis of schizophrenia, only the symptoms, or both the diagnosis and symptoms (Penn et al., 1994). No significant difference in the overall amount of negative emotional reactions was observed, although changes in specific emotions were not assessed (Penn et al., 1994). Nevertheless, the phrasing used to convey a diagnosis may be influential. According to Penn and Nowlin-Drummond (2001), labels deemed by professionals to be least politically correct (e.g. schizophrenic) received more negative reactions than those considered politically correct (e.g. consumer of mental health services). However, participants identified fewer symptoms of schizophrenia from the politically correct labels, so it remains unclear whether emotional reactions were less negative because the term was more benign or because it was less informative.

Identifying problems as mental health difficulties seems to result in mixed emotional reactions. Whilst politically correct labels may temper emotional reactions, this is perhaps only because they avoid drawing attention to symptoms of the respective person with a mental health problem.

Beliefs about Causes

Two studies explored the impact of causal beliefs on emotional reactions. Biological explanations of the cause of schizophrenia appear to increase fear (Angermeyer & Matschinger, 2003a; Dietrich, Matschinger & Angermeyer, 2006). In addition, the specific explanation of brain disease was associated with decreased pity (Angermeyer & Matschinger, 2003a). Biological explanations of depression have considerably weaker associations with fear (Angermeyer & Matschinger,

2003a; Dietrich et al., 2006). Those who attribute the development of mental health problems to psychosocial stress tend to react with pity and less anger (Angermeyer & Matschinger, 2003a). Thus biological explanations of mental health problems would appear to be associated with more negative emotional reactions than psychosocial explanations.

Beliefs about Treatment

Two studies examined the relationship between treatment beliefs and emotional reactions (Corrigan et al., 2003; Halter, 2004). The findings indicated that people who felt angry or fearful toward people with depression or schizophrenia were more likely to support interventions involving segregation (e.g. institutionalisation) or coercion (e.g. mandatory inpatient or outpatient treatment). Anger and fear were associated with endorsing helping behaviours toward people with depression, yet reduced endorsement of helping behaviours for people with schizophrenia. Anger and helping behaviour appear to be negatively associated (Corrigan et al., 2002). Participants who felt pity toward people with either depression or schizophrenia were more likely to support helping behaviours and coercive treatment. One study indicated that expectation of a poor natural course for schizophrenia increased anger whereas poor prognosis for depression decreased pity (Angermeyer & Matschinger, 2003a).

Greater pity for people with depression appears to influence openness to seeking help in similar circumstances and pity seems to predict the help seeking intentions of men above any other factor (Halter, 2004). However, participants in Halter's (1004) study were recruited in the waiting room of a primary health care centre so it is possible that they had more inclination to seek professional help than the general population as a whole. Participants who feel anger and no pity toward

people with schizophrenia appear to be least likely to consider seeking professional psychological help themselves, whilst fear does not seem to influence help seeking (Cooper et al., 2003). Of note, this study measured general attitudes toward seeking help rather than asking what participants anticipated they would do in response to a more specific personal problem. Having sought psychological, community or medical help for personal problems in the past was not related to emotional reactions, but an area for future study is whether individuals' perceptions of their future vulnerability to a mental health problem affect their emotional reactions to other people with such experiences.

Stereotypes

Two key stereotypes featured in the literature: 'people with mental health problems are dangerous' and 'people with mental health problems are responsible for their difficulties'.

Dangerousness

A number of studies have concluded that the perception of people with mental health problems as dangerous increases fear and anger and decreases pity (Angermeyer & Matschinger, 2003a; 2003b; Angermeyer et al., 2004; Arthur et al., 2010; Brown, 2008; Corrigan et al., 2001; 2002; Dietrich et al., 2006; Halter, 2004), with the exception that no such associations were detected in a study by Peluso and Blay (2009). Community members with extensive experience of people with mental health problems gave low ratings to the feature "likely to be violent" in Flanagan and Davidson's (2009) study and only reported concurrent concerns about danger and fearfulness when a person appeared threatening at a particular moment in time. One study unexpectedly found pity to increase with beliefs about dangerousness, but no explanation for this finding was offered (Corrigan et al., 2003).

Dangerousness and fear commonly co-occur in the literature, but it is worth mentioning that the attribute "frightening" features in a prominent measure of perceived dangerousness and it is unclear if this is distinct from the affective reaction of fear (Angermeyer & Matschinger, 2003a; 2003b; Angermeyer et al., 2004; Dietrich et al., 2006). This is potentially problematic given that these measures are correlated in the analyses of these studies. A common weakness in this area of research is the non-randomised order of the surveys, meaning attention is explicitly drawn to issues of dangerousness before emotional reactions are assessed.

Personal Responsibility

Anger and fear have been found to be positively correlated with the belief that an individual is to blame for their depression and blaming an individual for schizophrenia has been found to increase anger and decrease pity (Angermeyer & Matschinger, 2003a; Corrigan et al., 2003; Halter, 2004). For example, participants in Corrigan et al.'s (2003) study who were led to believe that an individual was 'responsible' for developing schizophrenia through drug abuse expressed more anger and less pity than participants given no information. In contrast, those led to believe the person was not responsible (head injury from a car accident) expressed more pity, less anger and less fear (Corrigan et al., 2003). However, this was not supported by Corrigan et al. (2002), perhaps because they asked participants about their general impressions of people with mental health problems rather than experimentally manipulating beliefs about responsibility as was done by Corrigan et al. (2003). It is, however, debatable whether either method replicates real-life interactions.

Thus the research literature provides overriding support for a link between the stereotype of dangerousness and the response of fear. The perception that an individual is responsible for their mental health problem may have more complex

effects of less pity, more anger and perhaps more fear (the reverse appears true for those who do not blame the individual).

Social Distance

The effect of familiarity with mental health problems on social distance mediated by emotional reactions may be greater than the direct relationship between familiarity and social distance (Angermeyer & Matschinger, 1997) and emotional reactions may be at least as important, if not more important, than stereotypes of 'unpredictable', 'dangerous' and 'lacking will power' (Angermeyer et al., 2010). Emotional reactions considered to be prosocial, such as pity, are generally associated with the greatest reported willingness to have contact with the mentally ill, whilst the absence of prosocial emotions is associated with desire for distance (Angermeyer & Matschinger, 1997; 2003b). However, empathy was not found to be associated with social distance by Brown (2008) and even though pity increased over a period of nine years in Germany, social distance did not decrease, possibly because the effects of pity were neutralised by a slight elevation of anger (Angermeyer & Matschinger, 2004). Crucially, it may be a false assumption that prosocial emotional responses equate to actual acceptance (Angermeyer & Matschinger, 2003a).

Social distance from people with schizophrenia or depression also appears to be predicted by fear (Angermeyer & Matschinger, 1997; Angermeyer et al., 2004; Brown, 2008; Corrigan et al., 2001; Dietrich et al., 2006; Wolff et al., 1996a). Despite using different case descriptions, measures and German participants, Angermeyer et al. (2004) replicated Corrigan et al.'s (2001) finding from an American community college sample that fear predicts social distance from people with mental health problems. Fear has more of an effect on desire for distance than aggressive emotions (Angermeyer & Matschinger, 2003b). Aggressive emotions are

positively correlated with social distance (Brown, 2008), but seem to have minimal influence, perhaps because they are expressed relatively infrequently (Angermeyer & Matschinger, 1997; 2003b).

In summary, emotional responses considered to be prosocial are associated with the greatest *reported* willingness to have contact with the mentally ill, whilst the absence of prosocial emotions is associated with desire for distance. Fear in particular is associated with desire for distance. Given that this entire body of research is based on self-reported reactions, often in relation to imaginary characters, research is needed to determine if links between and social contact are pertinent to real life situations.

Is There Evidence That Emotional Reactions Can Be Modified by Anti-Stigma Interventions?

Only four studies have considered the impact of anti-stigma interventions on emotional reactions, three of which were led by the same author and all of which consider schizophrenia only. Two of the studies concluded that interventions involving contact with a person with a mental health problem had a greater impact on emotional reactions than education alone (Corrigan et al., 2002; Corrigan, Larson, Sells, Niessen & Watson, 2007). One study reported no effect of an educational intervention (Penn et al., 2003) and another study observed a negative effect on emotional reactions (Corrigan et al., 2004).

In the first of these studies, participants were assigned to an intervention that involved either education about myths or direct contact with a person who experienced residual symptoms of a serious mental health problem (Corrigan et al., 2002). The intervention addressed one of two types of belief: responsibility for the mental health problem or dangerousness. A control condition included aspects of the

intervention that were unrelated to mental health problems. Significantly more pity, less anger and less fear were expressed one week after contact with a person with a mental health problem regardless of which type belief was targeted, although pity especially increased when beliefs about responsibility were challenged. Education about dangerousness had no impact on emotional reactions, whereas education about responsibility had short-lived effects on reducing anger and fear. Fewer than half the participants returned to the one week follow-up (97 of 213), but they were deemed suitably similar in their socio-demographic characteristics and previous responses to those who did not return. Notably, the observed changes in emotional reactions were not accompanied by changes in participants' beliefs about responsibility or dangerousness.

Corrigan et al. (2007) showed participants a ten-minute film presentation in which a person with a mental health problem either described their life story and recovery (the 'contact' condition) or presented facts to oppose myths, without reference to their mental health problem (the 'education' condition). Levels of anger and fear reduced in response to both films. The difference was that pity decreased following the contact condition and remained lower one week later. This was viewed as an indicator of empowerment of the mentally ill and thus a *less* stigmatising reaction, supported by a parallel decrease in desire for social distance. The decrease in pity was unanticipated and thus the conclusion that contact-based interventions are preferable to education seemed rather tentative.

Considering the impact of education, Penn et al. (2003) found that emotional reactions to people with schizophrenia did not differ between participants who watched a documentary film about schizophrenia or an unrelated topic. The authors suggested the documentary was realistic in highlighting the heterogeneity of

schizophrenia but too diffuse to reduce stigma. Nevertheless, current mood state and beliefs about blame and responsibility were both influenced by the documentary.

An education about violence programme was found by Corrigan et al. (2004) to increase fear of people with schizophrenia immediately following and one week after the intervention. It seemed that the programme may have inadvertently increased stigma by only referring to untreated people and not setting the context that people without mental health problems are responsible for a larger proportion of violence. Fear was the only emotion considered, although evidence reported in the current review suggests that anger and pity are also influenced by perceptions of dangerousness.

The above studies share the strength that all participants were randomised to each condition and no biases in socio-demographic variables were reported. However, there were also some common weaknesses. All four studies used students as participants. Despite the three studies that recruited from community colleges (Corrigan et al., 2002; 2004; 2007) producing more diverse samples than the university sample (Penn et al., 2003), the results did not necessarily represent how the general population experience anti-stigma campaigns. Known influential variables, such as demographic features and familiarity, were not taken into account in the analyses. Also, one week was the longest period of follow-up, so it is unclear whether the interventions made a lasting impact on emotional reactions. One straightforward development would be to assess whether different emotional reactions to the interventions correlate with simple behavioural choices, such as participants' responses when given the option to donate money they earn for participating to a mental health charity (as in Corrigan et al., 2002).

Only very tentative conclusions can be drawn from the limited number of studies that have considered the impact of anti-stigma interventions on emotional reactions. There is some evidence that anti-stigma programmes involving contact with a person with a mental health problem are preferable to education alone, which may have limited effects on affective responses. Of note, it is possible for unintended, adverse effects on emotional reactions to occur.

Discussion

Compared to other aspects of mental health stigma, emotional reactions have received limited attention in population based studies (Angermeyer et al., 2010). The evidence available in this area relies almost exclusively on data from self-report questionnaires to estimate the general public's emotional reactions to people with mental health problems during interpersonal interactions. Notwithstanding limitations in generalising findings using this approach, measures with good psychometric properties have been developed and studies have regularly quantified reactions of pity, fear and anger using varied samples and questionnaires.

Pity is the most frequent emotion experienced in regard to people with schizophrenia and depression, followed by fear and lastly anger (Angermeyer & Matschinger, 2003a; 2004; Crespo et al., 2008; Flanagan & Davidson, 2009; Halter 2004; Kabir, et al., 2004), although evidence of this pattern not based on self-report is lacking. The implicit pressure to provide socially desirable responses may mean pity is over-reported, while fear and anger may be under-represented. However, categorising pity as prosocial is questionable in itself, as pity can be considered to be a condescending response.

Running with the assumption that pity is a prosocial response, people with depression seem to attract more positive emotional reactions from the general public

than people with schizophrenia, which is associated with considerably more fear and anger (Angermeyer & Matschinger, 2003a; Angermeyer et al., 2010; Penn et al., 1994). An ongoing consideration for this area of research is how to measure responses to different mental health problems whilst making use of descriptions and labels most pertinent to the general public, which may not necessarily be diagnostic categories (Arthur et al., 2010).

The research literature provides considerable support for Link et al.'s (2004) proposal that emotional reactions vary in relation to negative stereotypes and social distance. The wide variety of beliefs and behaviours associated with emotional reactions within the identified studies points toward the influential role of affective responses in the stigma process. As proposed by Corrigan et al. (2002; 2003), it appears that attribution theory is a useful way of clarifying some of the links between the general public's cognitions, emotions and behaviours in response people with mental health problems. According to attribution theory, ascribing success or failure to a person leads to different affective reactions and behavioural responses (Weiner, 1995). In line with this, the literature indicates that when people with a mental health problem are attributed as responsible for their mental health difficulties the main affective reaction is elevated anger and anger is in turn linked to the behavioural response of discrimination. Behavioural discrimination has been indicated by endorsement of punishing treatments involving coercion and segregation (Angermeyer & Matschinger, 2003a; Corrigan et al., 2003; Halter, 2004) and not supporting helping behaviours (Corrigan et al., 2002). Also in accordance with attribution theory, the inference that people are not responsible for their mental health problems appears to be allied with pity and fewer negative reactions (Corrigan et al., 2003).

An alternative theoretical account could possibly be offered by the "Just World" hypothesis, which refers to an inclination to believe that the world is fundamentally fair and predictable (Lerner, 1980). Application of this theory would suggest that an individual's expectations of fairness are challenged in the presence of a person with mental health problems, creating an unpleasant affective response that may be quickly alleviated through social avoidance. By judging people with mental health problems as personally responsible for their difficulties, an individual is free of guilt for not helping and their worry that they could also develop such difficulties is dissipated. The "Just World" hypothesis implies that there is an early unpleasant emotional reaction, but this is not well-defined and guilt was not assessed in any of the studies. Of importance, it is unclear how the presence of pity would be accounted for by the "Just World" hypothesis.

Pertinent to the stigma of mental health problems, it appears that attribution theory may also be tailored to the stereotype of dangerousness. Perceptions of dangerousness have been found to be allied with a particular increase in fear of people with schizophrenia, and also more anger and less pity (Angermeyer & Matschinger, 2003a; 2003b; Angermeyer et al., 2004; Arthur et al., 2010; Brown, 2008; Corrigan et al., 2001; 2002; Dietrich et al., 2006; Halter, 2004). People who reported fear were consistently more likely to desire social distance from people with mental health problems (Angermeyer & Matschinger, 1997; Angermeyer et al., 2004; Brown, 2008; Corrigan et al., 2001; Dietrich et al., 2006; Wolff et al., 1996a). The evolutionary function of fear has also been highlighted in encouraging greater distance from people who may act unpredictably (Haghighat, 2001).

Unaccounted for by attribution theory and Corrigan et al.'s (2003) model of public stigma, a single stereotype has been associated with multiple emotional

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reactions and a single emotional reaction has been associated with more than one behavioural response. For example, the dangerousness stereotype has been found to be associated with increased anger and decreased pity as well heightened fear, whilst people who felt pity were more likely to support coercive treatments as well as helping behaviours (Angermeyer & Matschinger, 2003a; 2003b; Angermeyer et al., 2004; Arthur et al., 2010; Brown, 2008; Corrigan et al., 2001; 2002; Dietrich et al., 2006; Halter, 2004). Attribution theory does not easily explain these more complicated associations.

The evidence base indicates that emotional reactions may well have roles beyond those highlighted in current models of mental health stigma. There appears to be a reasonably stable relationship between familiarity with mental health problems and increased pity, reduced fear and reduced anger (Angermeyer & Matschinger, 1997; Angermeyer et al., 2004; Brockington et al., 1993; Corrigan et al., 2003; Vezzoli et al., 2001). Furthermore demographics seem to play a role in that women react with more sympathy, more anxiety and less anger than men (Angermeyer & Matschinger, 2003a; 2004; Angermeyer et al., 1998; Corrigan et al., 2003; Kabir et al., 2004) and people with greater educational attainments seem to react more positively, or at least less negatively (Angermeyer & Matschinger, 2003a; 2004; Brockington et al., 1993; Kabir et al., 2004; Murphy et al., 1993; Peluso & Blay, 2009). Such differences are likely to complicate efforts to reduce stigma through public campaigns, the evidence implying that more tailored interventions may be necessary to target the different emotional reactions associated with demographic diversity and variances in familiarity with mental health problems.

The evidence base does not clearly indicate how mental health problems are best labelled to increase positive emotional reactions. However, in general,

psychosocial explanations of the cause of the difficulties appear more preferable to biological accounts (Angermeyer & Matschinger, 2003a; Dietrich et al., 2006). This is interesting in the context of responsibility attributions, as it might be assumed that biological causes lead to less blaming of individuals than psychosocial causes and thus more preferable emotional reactions (Corrigan et al., 2000; Weiner, Perry & Magnusson, 1988). It may be that causal explanations are influenced by attributions other than responsibility that have not yet been identified by researchers, implying the possible complexity of public stigma.

Based on only four studies exploring the influence of anti-stigma interventions on emotional reactions, early indications are that contact with a person with a mental health problem impacts on emotional reactions more than education alone (Corrigan et al., 2002; Corrigan et al., 2007), possibly due to a greater impact on stereotypes. The effects of education programmes are limited, but may still induce undesirable reactions (Corrigan et al., 2004; Penn et al., 2003). There seem to be difficulties determining what information is best to include in education-based interventions. Although the impact of contact-based interventions appears to support the basic premise of community care, more research is needed to assess the processes by which contact interventions influence emotional reactions, such as providing the opportunity for new emotional experiences of people with mental health problems or prompting changes in specific cognitions.

Future Research Directions

One of the most important developments in emphasising the importance of the role of emotional reactions would be the consistent use of research strategies that enable emotional reactions to be distinguished from behavioural responses and cognitions. Another key area for future research is the inclusion of a measure of

impression management to screen for socially desirable response styles or the development of a less overt measure of emotional reactions, such as the Implicit Association Test (Greenwald, McGhee & Schwarz, 1998). Whilst questionnaires simplify data collection and allow broad conclusions to be formed, further research using open-ended questions or qualitative methods (e.g. Arthur et al., 2010; Flanagan & Davidson, 2009) may be useful to explore more intricate reactions and could be a particularly useful means for assessing responses to anti-stigma interventions.

While the focus of the present review is on emotional reactions to people with mental health problems in general, and depression or schizophrenia in particular, further review of any research that considers other types of mental health problems would be useful in considering ways in which stigma may be addressed on a wider level. Replication of studies exploring emotional reactions within the UK general population is needed, as current research can only be tentatively applied at present. As Thornicroft et al. (2007) note, a better understanding of emotional reactions in general may enable more effective interventions to be developed.

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Part Two: Empirical Paper

The Influence of Diagnostic Labels on Stigma Toward People with

Schizophrenia and Intellectual Disability

Abstract

Aims: The main purpose of this study is to explore the effects of labelling on the general public's reactions to people with schizophrenia and intellectual disability.

Method: A total of 1233 adult members of the UK general population were randomly presented with either diagnostically labelled or unlabelled case vignettes depicting someone with schizophrenia and intellectual disability. Causal beliefs, emotional reactions and social distance were assessed in response to each vignette.

Results: Labelling increased beliefs that the causes of schizophrenia and intellectual disability are biomedical. It also had a positive, but small, direct effect on emotional reactions and willingness for social contact. However, examination of links between causal beliefs and emotional reactions revealed additional undesirable effects of labelling.

Conclusions: Labelling has complex effects on stigma toward people with schizophrenia and intellectual disability. It is important to attend to the cognitive, emotional and behavioural components of stigma.

Introduction

This paper sets out to explore the influence of diagnostic labels on public stigma toward people with schizophrenia and intellectual disability. Public stigma, which refers to the ways in which the general population stigmatises people, has been found to impact considerably on the life experiences and prognoses of people with schizophrenia and intellectual disability (Corrigan & Penn, 1999; Cummins & Lau, 2003; Link & Phelan, 2001; Thornicroft, 2006). Public stigma is, however, frequently associated with characteristics of the general public that cannot be influenced such as low educational attainment and older age (Jorm & Oh, 2009).

Potentially amenable to change, current explanatory models of public stigma distinguish cognitive, affective and behavioural reactions (Link & Phelan, 2001; Thornicroft, Rose, Kassam & Sartorius, 2007). This triad of reactions can be organised using attribution theory (Weiner, 1980). Attribution theory assumes that people are motivated to understand the reasons for "negative events" and make causal attributions. Causal attributions in turn determine emotional reactions and behavioural responses. Distinct from any causal attribution, blame for the "negative event" may be appraised and, particularly pertaining to schizophrenia, the stereotype of dangerousness may be endorsed (Weiner, 1980; Corrigan et al. 2002). Judging an individual as responsible for the reason they developed schizophrenia, for example, has been shown to lead to anger and social rejection (Corrigan, Markowitz, Watson, Rowan & Kubiak, 2003).

The most common measure of behavioural stigma is desire for social distance in a range of interpersonal situations. Desire for distance appears to be greater in response to people with schizophrenia than people with an intellectual disability (Lau & Cheung, 1999; Scior & Furnham, in preparation). Attribution theory assumes that

people have different cognitive and emotional reactions, leading to differences in desired social distance. In line with this, research suggests that the general public understands the causes of schizophrenia and intellectual disability to be different. In the absence of an explicit diagnosis, symptoms of schizophrenia are typically conceived to be the consequence of current environmental stressors, such as employment problems, whereas adverse life experience, such as a traumatic event, is the most common explanation for intellectual disabilities (Angermeyer & Matschinger, 2005; Jorm, 2000; Scior & Furnham, 2011).

As yet there is no published research about emotional reactions to people with intellectual disability, but research so far indicates that emotional reactions have a significant role in mediating the relationship between causal attributions about schizophrenia and desire for social distance (Angermeyer, Holzinger & Matschinger, 2010). Emotional reactions appear to be more significant mediators of desire for social distance than negative appraisals of people with schizophrenia, such as stereotypes that they are dangerous and lack willpower (Angermeyer et al., 2010). Environmental causal explanations are associated with emotional responses of elevated pity and less anger, which are in turn associated with higher social acceptance (Angermeyer & Matschinger, 2003a; Angermeyer et al., 2010). Conversely, attributions of "bad character" or devious behaviour, such as lack of willpower or alcohol abuse, have been found to decrease pity and increase anger, reactions which are associated with increased desire for social distance (Angermeyer & Matschinger, 2003a; Angermeyer et al., 2010; Jorm & Oh, 2009).

The influence of biological causal explanations on emotional reactions and desire for social distance is a more contentious issue. Recommendations have been made to promote biological causal beliefs to promote help-seeking and reduce stigma

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(Jorm et al., 1997). It has been presumed that attributions of biological causes reduce the stigma associated with mental health problems by limiting assumptions that individuals are personally responsible and thus removing blame and anger, whilst increasing sympathy and the general public's desire to help (Corrigan et al., 2000). This assumption may hold true for intellectual disability (Panek & Jungers, 2008). However, an alternative body of research indicates that fear and social discrimination toward people with schizophrenia instead increase when biological causes are attributed (Angermeyer & Matschinger, 2003a; 2005; Read, 2007; Read, Haslam, Sayce & Davies, 2006). There is partial evidence that genetic explanations are an exception to any negative effects of biological attributions (Jorm & Oh, 2009; Phelan, Cruz-Rogas and Reiff, 2002). At a stringent statistical level Jorm & Griffiths (2008) found no association between a genetic explanation and social distance, nor did Bennett, Thirlaway and Murray (2008), although other measures of stigma did increase in this latter study. However, a relationship between genetic causal beliefs, perceived dangerousness, fear and social distance has been identified (Dietrich, Matschinger & Angermeyer, 2006).

The above findings indicate differences in stigma toward people with schizophrenia and people with intellectual disabilities. One key influence on stigmatising reactions is the ways in which the general public labels the presenting problem. However, most research that considers the effect of "labelling" actually assesses the general public's ability to identify a specific problem portrayed in a case description (Angermeyer & Matschinger, 2003a; 2003b; Jorm et al., 1997; Lauber, Nordt, Falcato & Rössler, 2003; Scior & Furnham, in preparation). Comparisons of stigmatising reactions are then made between those who correctly identify the problem and those who do not (Angermeyer & Matschinger, 2003a; 2003b; Jorm et

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al., 1997; Scior & Furnham, in preparation). Correct identification of "schizophrenia" or "mental illness" is often associated with significantly more attributions of biological causes than other explanations, more fear and less pity, and equal or greater desire for social distance (Angermeyer & Matschinger, 2003a; 2003b; Read et al., 2006; Scior & Furnham, in preparation). Correct identification of intellectual disability is associated with less desire for social distance, but associations between identification of intellectual disability and specific causal explanations are unknown (Scior & Furnham, in preparation).

These studies arguably reflect the majority of day-to-day interactions with people with stigmatised difficulties; the public may notice the symptoms of schizophrenia or mild intellectual disability without necessarily knowing the diagnosis, so the nature of the problem is open to interpretation (Scior & Furnham, 2011). However, a considerable limitation of this approach is that a number of confounding variables may also explain differences in reactions between those who correctly identify the problem and those who do not. For instance, the public's ability to identify schizophrenia or intellectual disability is associated with prior contact with people who have similar difficulties (Scior & Furnham, in preparation), and prior contact lessens stigmatising reactions (Angermeyer & Matschinger, 1997; Angermeyer, Matschinger & Corrigan, 2004a; Jorm & Oh, 2009; Oulette-Kuntz, Burge, Brown & Arsenault, 2010; Scior & Furnham, in preparation). Thus reactions associated with identification of the presenting problems are not necessarily attributable to the labels themselves.

Experimental manipulation of the presence of a diagnostic label draws attention to the distinction between discrimination that results from a "designation or tag" attached to a person and stigma that emerges from a person's actual

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characteristics (Phelan & Link, 2001). Labelling has been emphasised as an important mechanism in increasing separation between "us" and "them", which in turn generates emotional reactions and fosters discrimination (Link, Yang, Phelan & Collins, 2004). Minimal research attention has been given to the experimental manipulation of labelling to explore these possible effects and findings to date are equivocal. Diagnostic labels presented alone have been associated with fewer stigmatising reactions than labels accompanied by information about symptoms, but unfortunately no comparisons have been reported between the presentation of symptoms with and without a diagnostic label (Brockelman, Olney & Williams, 2002; Penn et al., 1994). In the absence of other information, labels deemed politically correct, such as "consumer of mental health services", appear to generate fewer stigmatising emotional reactions than "schizophrenic", but this is perhaps because few symptoms of schizophrenia are identifiable from generic labels (Penn & Nowlin-Drummond, 2001). In regard to non-diagnostic labelling, referring to a hypothetical character as previously "hospitalised in a mental hospital" has been found to increase desire for social distance only in respondents who perceived the character to be dangerous (Link, Cullen, Frank & Wozniak, 1987). Given the potential significance of labelling, as suggested by Link et al. (2004), further research is warranted.

Based on research indicating the general public's diverse reactions to people with schizophrenia and intellectual disability, the role of diagnostic labels in influencing specific types of causal attributions, emotional reactions and desire for social distance will be explored. It will be investigated whether the same or different beliefs and reactions are important in stigma processes for schizophrenia and intellectual disability. This is deemed to be a suitable comparison because

schizophrenia and intellectual disability often have a pervasive impact on people's lives and both have relatively low lifetime prevalence rates, hence public awareness of these difficulties might be expected to be similar (Scior & Furnham, 2011). This study will also assess whether attribution theory is a useful way of conceptualising public stigma in the UK on the basis that cultural differences in the stigma process have been observed (Angermeyer, Buyantugs, Kenzine & Matschinger, 2004b; Scior & Furnham, in preparation).

The following hypotheses are derived from the literature and attribution theory. Hypotheses 1 to 3 focus on the direct effects of presenting or withholding the diagnostic label. Hypotheses 4 and 5 consider identification of schizophrenia and intellectual disability in the absence of a diagnostic label, akin to previous research. The final hypothesis focuses on the indirect effects of diagnostic labelling on desire for social distance.

1) Diagnostic labelling will increase desire for social distance from people with schizophrenia but decrease desire for social distance from people with intellectual disability.

2) Diagnostic labelling will increase beliefs that biomedical explanations are the cause of schizophrenia and intellectual disability and decrease beliefs in causes associated with adverse experiences and environmental factors.

3) Sympathy will be the emotion reported most frequently toward people with schizophrenia and intellectual disability regardless whether the diagnostic label is present or absent, although:

    a. Diagnostic labelling of schizophrenia will be associated with less sympathy, more fear and more anger

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      b. Diagnostic labelling of intellectual disability will be associated with more sympathy and less anger, with fear unaffected.

4) In the absence of a diagnostic label, ability to correctly identify the presented problem will be associated with prior contact with people with similar difficulties, ethnicity, greater educational attainment, being female and of older age.

5) Akin to previous research, in the absence of a diagnostic label, correct identification of schizophrenia will be associated with greater desire for social distance, more biological causal beliefs with fewer environmental and adversity causal beliefs, and less sympathy alongside more anger and fear. Correct identification of intellectual disability will be associated with less desire for social distance, more biological causal beliefs with fewer environmental and adversity causal beliefs, and more sympathy alongside less anger, with fear unaffected.

6) Causal attributions and emotional reactions will mediate the influence of diagnostic labels on desire for social distance.

Method

Respondents

The total sample was comprised of 1233 members of the UK population aged 18 or over. Respondents to the diagnostically labelled and unlabelled versions of the survey were matched on age, gender, ethnicity, educational attainment and prior contact with people with schizophrenia and intellectual disability, see Table 1. The mean age of the respondents was 33 years (SD=9.89) for the diagnostically labelled version of the survey and 32.1 years (SD=10.97) for the unlabelled survey. Previous contact with people with a mental health problem was reported more frequently than

contact with people with an intellectual disability. The majority of respondents were female, White and educated to degree level.

Table 1

Socio-demographic Characteristics of the Sample

	Diagnostically Labelled Survey (N=628)	Unlabelled Survey (N=605)
	%	%
Gender		
Male	27.2	31.2
Female	72.8	68.8
Ethnicity		
White	87.4	85.5
Asian	6.5	7.9
Black	3.3	3.1
Other	2.7	3.5
Education		
No Degree	16.6	12.7
Degree	83.4	87.3
Previous Contact		
Mental Health Problem	69.3	66.9
Intellectual Disability	44.4	45.8

Procedure

Respondents were recruited to the study using an incentivised snowballing method (Gardner, 2009). An online survey hosted by Opinio was circulated by the researcher with a request to pass on the survey to other people. A financial incentive

of £30 in retail vouchers was offered to the individual who recruited most other people to the study. To encourage participation generally, respondents could opt to enter a prize draw to win £100 in retail vouchers.

The response rate was 63.53%, measured as the proportion of people who completed the survey following presentation of the information sheet. The use of snowballing meant it was not possible to calculate the response rate according to how many invitations were distributed.

Respondents were randomly allocated to one version of the survey via a website programmed for this purpose. 236 responses to the diagnostically labelled survey collected by undergraduate students under my supervisor's supervision were added to the data and 318 additional responses to the unlabelled survey were obtained by recruitment through the university mailing list.

Measure

The measure, a modified version of the Intellectual Disability Literacy Scale (IDLS, Scior & Furnham, 2011), includes questions that assess stigma in relation to schizophrenia and intellectual disabilities. The measure is based on two case vignettes. Both vignettes describe a male in his 20s, one of whom meets diagnostic criteria for schizophrenia and the other for mild intellectual disability (American Psychiatric Association, 1994). A mild intellectual disability usually has less obvious markers than a severe intellectual disability and is therefore susceptible to misattribution, similar to schizophrenia. During development of the IDLS the vignettes were reviewed by five experts (consultant psychiatrists and clinical psychologists) to ensure they met diagnostic criteria and were considered 'typical' of someone presenting with these difficulties. As the IDLS has featured in previous research no pre-testing of the vignettes was necessary. The vignettes either made no

reference to the diagnosis (see Appendix A) or were amended to include the diagnostic label at the start of the case description (see Appendix B for the amendment).

Following presentation of each vignette, respondents were asked a series of questions about their emotional reactions, beliefs about the causes of the difficulties and desire for social distance. The diagnostically unlabelled version of the survey also included a question to assess how respondents identified the difficulties. Information concerning respondents' contact with people with similar difficulties and their socio-demographic characteristics was also gathered. The intellectual disability vignette and questions always preceded schizophrenia. The components of the survey are described in more detail below and specific items can be located in Appendix A.

Problem Definition

For the diagnostically unlabelled survey only, an open-ended question assessed respondents' understanding of the difficulties presented in the vignettes. Responses were coded dichotomously by two raters as "correct diagnosis" (e.g. psychosis or learning disability) or "other" (e.g. psychological problem or lack of motivation). If multiple responses were given, the response closest to the correct diagnosis was registered. The inter-rater reliability for coding identification of schizophrenia was kappa =.89 (p<.001), 95% CI (.80, .98) and for intellectual disability kappa =.84 (p<.001), 95% CI (.74, .95). This indicated a high level of agreement (Landis & Koch, 1977).

Emotional Reactions

A measure of affective responses was incorporated into the IDLS. A list of nine emotions associated with pity, fear and anger was presented using a seven-point Likert scale (rating of 1 = strongly disagree to 7 = strongly agree). The items were

replicated from Angermeyer and Matschinger (2003a), based on a translation by Herbert Matschinger that was "corrected" by my supervisor to reflect everyday British English. Reliability analysis was used to assess the application of this measure to intellectual disability and the UK sample. One item from the original 'pity' subscale was removed from the analysis ("I feel the need to help him") as this item correlated least well with the other two items and is arguably a behavioural response rather than an emotional reaction. The subscale was renamed "compassion" as it is intended to measure empathetic responses, whereas 'pity' arguably runs directly counter to the core policy value of empowerment (Department of Health, 2001; 2009) and the service user movement's wish for equal rights. The reliability of each subscale was good to very good (Cronbach's alphas from .72 to .84), with the exception of the compassion subscale in relation to the intellectual disability vignette (Cronbach's alpha for labelled .65 and for unlabelled .67), although this is a direct effect of having only two items.

Causal Beliefs

Respondents' beliefs were assessed using 22 statements about possible causes of the behaviour described in the vignette. Respondents rated their agreement with each statement on the seven-point anchored scale described previously. The statements relate to four subscales of causal beliefs: biomedical (5 items), environmental (7 items), adversity (5 items) and religion or fate (5 items) (Scior & Furnham, 2011). Analysis following the development of the measure found that presumed biomedical causes accounted for 17.1% of the variance for the intellectual disability vignette and 13.1% for the schizophrenia vignette, environment accounted for 5.5% of the variance for the intellectual disability vignette but 28.2% for the schizophrenia vignette, adversity accounted for 24.8% of the variance for the

intellectual disability vignette and 6.7% for schizophrenia and fate accounted for 8.0% of the variance for the intellectual disability vignette and 8.5% for the schizophrenia vignette. The four subscales inter-correlated between -.12 and .48, suggesting that they measured related but distinct causal explanations. Cronbach's alpha for the causal items were .87 for the schizophrenia vignette and .84 for the intellectual disability vignette. As the IDLS was developed for people of multiple ethnicities the Fate subscale was not expected to be normally distributed in the present UK sample.

Social Distance

Respondents rated their willingness to have contact with the characters presented in the vignettes in five social situations with varying degrees of intimacy. The additional social situation of being a work colleague of the characters in the vignettes was added to the original four IDLS items. Responses were rated on the same seven-point Likert scale described previously. To aid interpretation, items were reversed and averaged to generate an overall measure of social distance in which high scores signified a greater desire for social distance. The internal consistency of the social distance scale was found to be very good (Cronbach's alphas ranging from .90 to .93). Test-retest reliabilities for the social distance items in the original IDLS were kappa >.7 for all items indicating that relatively stable attitudes are measured (Scior & Furnham, 2011).

Familiarity

Participants were asked if they are familiar with the difficulties presented in the vignettes through their own experiences or people known to them. These responses were coded dichotomously as "prior contact" or "no prior contact".

Socio-Demographic Characteristics

Information was collected regarding the respondents' age, gender, ethnicity and educational attainment.

Ethics

This study was part of a larger research project approved by the UCL Research Ethics Committee (Project ID Number: 0960/001, see Appendix C). A brief information sheet served as a cover sheet for the survey. The purpose and content of the study were explained in simple English (see Appendix A). Respondents freely chose to complete the survey and could discontinue at any time. Only complete responses were used in the analysis. Respondents were not required to provide any contact details, but could choose to do so in order to take part in the incentives. Personal details were immediately separated from responses to the survey and stored in a separate, password protected date file in order to ensure confidentiality. All response data was stored anonymously.

Statistical Analysis

The data were analysed using SPSS version 19. To ensure that the respondents to the labelled and unlabelled versions of the survey did not differ significantly in terms of gender, age, ethnicity, educational attainment or prior contact with people with schizophrenia and intellectual disability, a series of t-tests and chi-squares were carried out. To assess the influence of labelling on desire for social distance, causal beliefs and emotional reactions, t-tests with diagnostic labelling as the independent variable were conducted. The subset of data representing the unlabelled version of the survey was then focused upon. To determine which variables influence ability to identify schizophrenia and intellectual ability, logistic regression analyses were carried out. The influence of problem identification on

desire for social distance, causal beliefs and emotional reactions was then assessed using t-tests. Finally, in order to examine the hypothesis that causal attributions and emotional reactions mediate the relationship between diagnostic labelling and desire for social distance, path analyses for schizophrenia and intellectual disability were carried out using linear regression.

Results

To examine the effects of presenting diagnostic labels alongside descriptions of schizophrenia and intellectual disability, data pertaining to desire for social distance, causal beliefs and emotional reactions are first examined. Consideration is then given to respondents' ability to correctly identify these problems in the absence of an explicit diagnosis. The effects of correctly identifying schizophrenia and intellectual disability on measures of social distance, causal beliefs and emotional reactions are then examined. Finally the roles of causal beliefs and emotional reactions in mediating the relationship between diagnostic labelling and desire for social distance are investigated using path models.

The 'unlabelled' condition refers to respondents who were presented with the description of the symptoms only (Appendix A, N=605) and the 'labelled' condition refers to respondents who were additionally informed of the diagnosis (Appendix B, N=628). Responses in the unlabelled condition are sub-divided according to whether respondents correctly identified the problems. Schizophrenia was identified by 30.6% of respondents (N=185), whereas 35% of respondents identified intellectual disability (N=212) in response to the unlabelled vignettes.

Impact of Diagnostic Labelling on Desire for Social Distance

It was hypothesised that diagnostic labelling would increase desire for social distance from people with schizophrenia but decrease desire for distance from people

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with an intellectual disability. Unexpectedly, significantly less desire for social distance from people with schizophrenia was reported in response to the labelled vignette than the unlabelled vignette ($t(1231)$=-4.63, p<.001). However, on average, responses to both versions of the schizophrenia vignette clustered around the midpoint of the scale, indicating ambivalence about social contact with people with schizophrenia both in the presence and absence of the diagnostic label, see Table 2.

As predicted, diagnostic labelling was associated with significantly less desire for social distance from people with intellectual disabilities than presentation of the symptoms alone ($t(1231)$=-9.943, p<.001). On average, the mean scores indicated that respondents provided with the diagnostic label were unsure about social contact with people with intellectual disabilities, whereas respondents not informed of the diagnosis somewhat desired distance.

Impact of Diagnostic Labelling on Causal Beliefs

As expected, the Fate subscale was not normally distributed and was therefore excluded from the analysis.

Schizophrenia was attributed to biomedical causes significantly more frequently in the presence of the diagnostic label, as predicted ($t(1220)$=-3.54, p<.001), see Table 2. In conjunction with this increase in biomedical explanations, significantly fewer items were endorsed concerning environmental causes ($t(1226)$=11.26, p<.001) and adversity ($t(1231)$=9.20, p<.001). Labelling intellectual disability had the same influences on respondents' attributions of possible causes. As predicted, the labelled condition was associated with significantly greater endorsement of biomedical causes ($t(1230)$=12.42, p<.001), alongside significantly lower endorsement of environmental factors ($t(1230)$=18.13, p<.00) and adversity ($t(1228)$=7.88, p<.001).

Table 2

Differences in Desire for Social Distance, Beliefs about Causes and Emotional Reactions According to Diagnostic Labelling

	Schizophrenia			Intellectual Disability		
	N	M	SD	N	M	SD
Social Distance						
Labelled	628	4.06	1.51	628	3.31	1.33
Unlabelled	605	4.45	1.45	605	4.10	1.45
Biomedical Causes						
Labelled	617	3.98	1.21	627	4.65	1.20
Unlabelled	605	3.71	1.37	605	3.50	1.39
Environmental Causes						
Labelled	624	1.84	0.93	627	2.32	1.12
Unlabelled	604	2.51	1.15	605	3.49	1.14
Adversity Causes						
Labelled	628	2.89	1.33	625	2.79	1.15
Unlabelled	605	3.57	1.27	605	3.31	1.20
Compassion						
Labelled	621	5.52	1.16	625	5.20	1.20
Unlabelled	600	5.34	1.27	605	4.80	1.34
Anger						
Labelled	628	1.83	0.99	607	1.86	0.88
Unlabelled	601	2.01	1.14	605	2.76	1.48
Fear						
Labelled	628	3.06	1.38	621	1.88	0.92
Unlabelled	605	3.19	1.44	601	2.16	1.13

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Impact of Diagnostic Labelling on Emotional Reactions

As predicted, feelings of compassion were most frequently reported toward people with schizophrenia and intellectual disability in both the presence and absence of diagnostic labels, see Table 2. Labelling symptoms of schizophrenia was predicted to engender fewer feelings of compassion, alongside more fear and anger. This was not supported by the data. Labelling schizophrenia was associated with significantly more compassion ($t_{(1219)}$=-2.72, p=.007) and significantly less anger ($t_{(1189)}$=3.04, p=.002) than the unlabelled description of symptoms, while fear did not notably differ. Despite the statistically significant difference, the mean scores indicated that respondents to the labelled and unlabelled conditions felt only somewhat compassionate toward people with schizophrenia. On average respondents to both conditions reported that they did not feel angry, with respondents to the labelled condition typically reporting no anger whatsoever.

As predicted, labelling symptoms of intellectual disability was associated with more compassion ($t_{(1205)}$=-5.59, p<.001) and less anger ($t_{(979)}$=12.87, p<.001) than presenting the symptoms alone. On average, respondents to the labelled condition felt somewhat compassionate toward people with intellectual disabilities, whereas respondents to the unlabelled condition were unsure if they felt compassionate. On average, respondents to the labelled condition strongly reported that they felt no anger and those in the unlabelled condition moderately disagreed that they felt anger. Unexpectedly, significantly less fear was also expressed in the presence of the diagnostic label ($t_{(1158)}$=4.78, p<.001).

The findings so far indicate that explicitly labelling schizophrenia and intellectual disability is associated with less desire for social distance, increased

beliefs that the cause is biomedical rather than environmental or life adversity, and greater expression of compassion.

Respondents' Identification of Unlabelled Problems

Focusing on the unlabelled condition only, it was hypothesised that respondents' ability to correctly identify schizophrenia and intellectual disability in the absence of a diagnostic label would be influenced by gender, age, educational attainment and prior contact with people with similar difficulties. Logistic regression analyses indicated that the odds of schizophrenia being identified were greater when respondents had prior contact with people with mental health problems or greater educational attainment, see Table 3. 36.3% of respondents who reported that they knew someone with a mental health problem were able to identify schizophrenia, whereas only 19% of the respondents without prior contact were able to. 32.6% of respondents educated to degree level identified schizophrenia, compared to only 16.9% of respondents without a degree.

Identification of intellectual disability was predicted by having prior contact with people with an intellectual disability and being female, see Table 3. 41.2% of respondents who reported that they knew someone with an intellectual disability correctly identified this as the presenting problem, compared to 29.9% of respondents with no prior contact. 38.2% of female respondents in the unlabelled condition correctly identified intellectual disability, compared to 27.7% of male respondents.

Thus prior contact was the only variable that predicted correct identification of both schizophrenia and intellectual disability, whilst age and ethnicity did not predict identification of either. Higher educational attainment only predicted the

likelihood of identifying schizophrenia and being female only predicted the likelihood of identifying intellectual disability.

Table 3

Predictors of Identification of Schizophrenia and Intellectual Disability: Results of Logistic Regression Analyses

	Schizophrenia			Intellectual Disability		
	B (SE)	Exp *b*	95% CI	*B (SE)*	Exp *b*	95% CI
Constant	0.39**	0.15		0.34*	0.49	
Prior Contact	0.21**	2.35	1.55 - 3.58	0.18*	1.64	1.55 - 3.58
Education	0.33*	0.42	0.22 - 0.81	-	-	-
Gender	-	-	-	0.20*	0.66	0.50 - 1.12

Schizophrenia Model χ^2 (5)=33.21, p<.001
Intellectual Disability Model χ^2 (5)=20.29, p<.001

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

The Effects of Correctly Identifying Unlabelled Problems on Desire for Social Distance, Causal Beliefs and Emotional Reactions

It was hypothesised that identifying the unlabelled symptoms as schizophrenia would be associated with increases in desire for social distance, biological causal beliefs, fear and anger, alongside decreases in environmental causal beliefs, adversity causal beliefs and compassion. Support was only found for the predicted increase in biological attributions ($t_{(603)}$=-4.75, p<.001) and decreases in environmental ($t_{(432)}$=7.18, p<.001) and adversity attributions ($t_{(603)}$=2.44, p<.05), see Table 4. Desire for social distance did not vary between respondents who correctly identified schizophrenia and respondents who put forward other explanations. Also unexpectedly, identifying schizophrenia was associated with

significantly more compassion ($t_{(598)}$=-4.40, p<.001) and less anger ($t_{(400)}$=-3.79, p<.001), with fear unaffected.

Concerning intellectual disability, it was hypothesised that correctly identifying the unlabelled symptoms would be associated with less desire for social distance, more biological causal beliefs alongside fewer environmental and adversity causal beliefs, and more compassion alongside less anger. As predicted, identification of intellectual disability was associated with significantly less desire for social distance ($t_{(603)}$=5.23, p<.001), see Table 4. On average, some willingness for social contact was expressed by respondents who identified intellectual disability, compared to the ambivalence generally expressed by other respondents. Again as predicted, significantly more attributions of biological causes were made when respondents correctly identified intellectual disability ($t_{(525)}$=-10.69, p<.001), alongside fewer environmental causal beliefs ($t_{(603)}$=6.40, p<.001). Unexpectedly, adversity attributions did not differ between respondents who correctly identified the symptoms or understood them differently. As predicted, more compassion ($t_{(596)}$=-5.10, p<.001) and less anger ($t_{(603)}$=-7.2, p<.001) were reported by respondents who identified intellectual disability. Unexpectedly, less fear was also reported by those who identified intellectual disability ($t_{(599)}$=-4.97, p<.001).

Table 4

Differences in Social Distance, Causal Beliefs and Emotional Reactions According to Identification of Unlabelled Vignettes

	Schizophrenia			Intellectual Disability		
	N	M	SD	N	M	SD
Social Distance						
Identified	185	4.38	1.44	212	3.69	1.37
Not identified	420	4.48	1.45	393	4.32	1.45
Biomedical Causes						
Identified	185	4.10	1.32	212	4.21	1.09
Not identified	420	3.34	1.35	393	3.12	1.39
Environmental Causes						
Identified	185	2.06	0.95	212	3.09	1.14
Not identified	419	2.71	1.18	393	3.70	1.08
Adversity Causes						
Identified	185	3.38	1.24	212	3.26	1.23
Not identified	420	3.65	1.27	393	3.35	1.18
Compassion						
Identified	184	5.67	1.12	212	5.08	1.19
Not identified	416	5.19	1.30	393	4.65	1.39
Anger						
Identified	185	1.77	1.03	212	2.21	1.17
Not identified	416	2.13	1.17	393	3.05	1.55
Fear						
Identified	185	3.17	1.55	212	1.86	0.97
Not identified	420	3.06	1.38	389	2.33	1.17

The Roles of Causal Beliefs and Emotional Reactions in Mediating the Relationship between Diagnostic Labelling and Desire for Social Distance

The final hypothesis was that the relationship between diagnostic labels and desire for social distance is mediated by respondents' attributions about the causes of schizophrenia and intellectual disability and their emotional reactions. To test this hypothesis, path models for schizophrenia and intellectual disability were computed using a series of saturated linear regression analyses, fully recursive and with manifest variables. In line with attribution theory, causal attributions preceded emotional reactions in the path models, and emotional reactions in turn preceded social distance. No paths were specified between the individual types of causal beliefs or emotional reactions. The inclusion of paths between variables was based on statistical significance. Paths that did not reach statistical significance were eliminated in order to prevent trivial associations unduly influencing the final models. All statistical paths met a meaningfulness criterion, defined as a regression coefficient greater than .05 (Pedhazur, 1982).

Schizophrenia

As indicated in Figure 1, labelling schizophrenia appears to reduce desire for social distance directly and also indirectly via causal attributions and emotional reactions. The direct effect of labelling on desire for social distance was more substantial than the sum of the indirect effects. Overall the model explained 25.8% of the variance in desire for social distance from people with schizophrenia.

Consideration of individual paths within the model indicates mixed effects of making a diagnosis of schizophrenia explicit. The most straightforward support for presenting a diagnostic label was the associated decrease in attributing schizophrenia to environmental causes, as environmental explanations were associated with

increased fear, which moderately elevated desire for social distance. Fewer beliefs in adversity causes were endorsed when the label was presented. This again offers some support for labelling the symptoms, as adversity was negatively associated with compassion and thus decreases social distance. Adversity was also associated with a slight decrease in anger, although there was no evidence that anger influences social contact. Perhaps of most importance, the increase in biomedical explanations associated with labelling had complex opposing effects. Biomedical explanations led to greater compassion and therefore somewhat decreased desire for distance. However, a less desirable but stronger pathway also existed between biomedical explanations, increased fear and greater desire for distance.

The path model and previous analyses indicate that the overall effect of labelling schizophrenia is a modest decrease in desire for social distance. Nevertheless, the path model highlights the important caveat that attributions of biomedical causes increase in response to the label and evoke fear as well as compassion, with competing effects on desire for social distance.
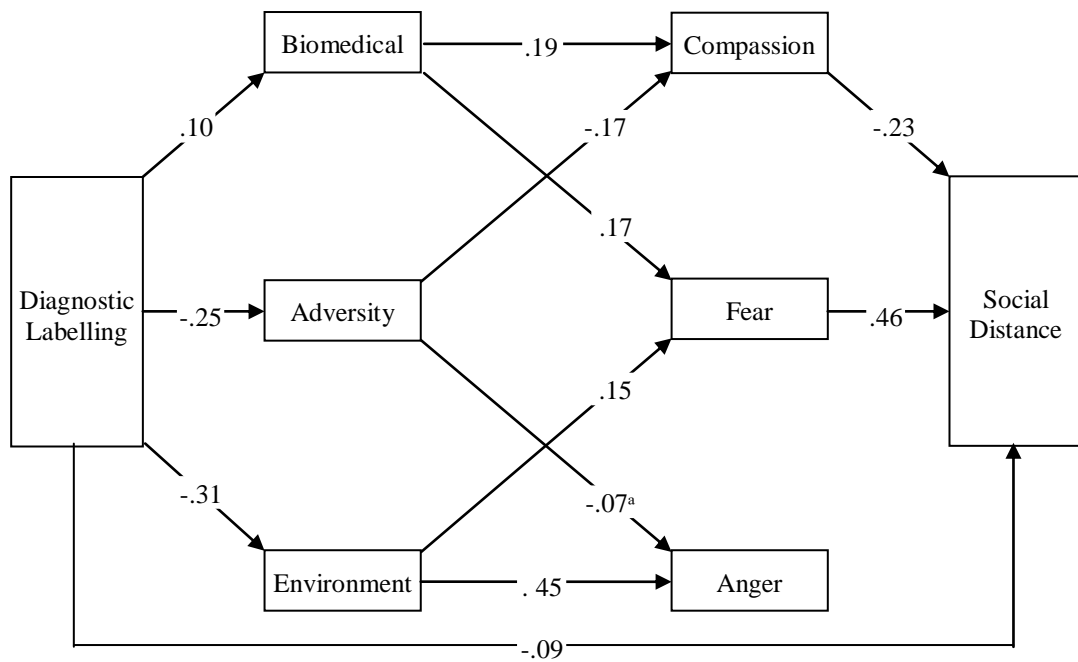
Sum of Indirect Effects =-.03

Total effect =-.12

Figure 1. Associations between diagnostic labelling, causal attributions, emotional reactions and social distance towards people with schizophrenia. Figures indicate standardized path coefficients. Coefficients significant at p<.001 unless otherwise indicated.

[a] statistically significant at p=.03

Intellectual Disability.

The path model for intellectual disability, presented in Figure 2, supported the earlier finding that diagnostic labelling is directly associated with decreased desire for social distance. The indirect effects of labelling via causal beliefs and emotional reactions were also associated with less desire for social distance. In fact, the sum of these indirect effects was greater than the direct link between labelling and social distance, implying the importance of causal attributions and emotional reactions. The path model explained 26.9% of the variance in social distance toward people with intellectual disabilities.

Akin to the schizophrenia model, consideration of individual paths within the model highlights the mixed effects of making a diagnosis explicit. Two key positive influences of diagnostic labelling are apparent. Firstly, attributions of biomedical causes were most frequent in the presence of the diagnostic label and endorsing biomedical causes was associated with increased compassion and a slight decrease in anger. Secondly, fewer attributions of environmental causes were endorsed in the presence of the label. Environmental attributions were associated with greater stigma through more fear, more anger, slightly less compassion and increased desire for social distance. The caveat to these positive influences of labelling was the resulting decrease in attributing adversity as a cause. Attributing adversity as the cause of intellectual disability was associated with less desire for social distance directly and indirectly through decreased anger.

The path models thus indicate that labelling the symptoms of schizophrenia and intellectual disability with diagnoses has both positive and negative effects on stigma.

Sum of Indirect Effects =-.17

Total effect =-.28

Figure 2. Associations between diagnostic labelling, causal attributions, emotional reactions and social distance towards people with intellectual disability. Figures indicate standardized path coefficients. Coefficients significant at p<.001 unless otherwise indicated.
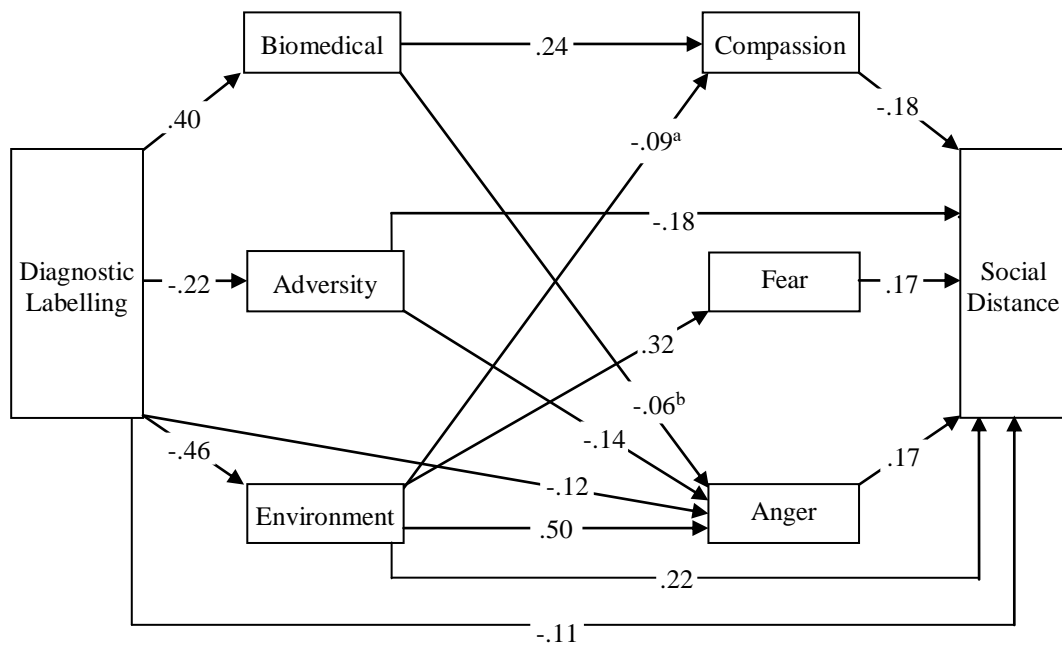
[a] statistically significant at p=.002, [b] statistically significant at p=.038.

Discussion

The current study set out to explore the influence of diagnostic labels on causal beliefs, emotional reactions and desire for social distance from people with schizophrenia and intellectual disability. Presentation of diagnostic labels influences the general public's reactions beyond the behavioural characteristics associated with schizophrenia and mild intellectual disability. The direct effect of diagnostic labelling on desire for social distance is very modest but appears to be positive. However, the influence of diagnostic labels on respondents' causal beliefs and their subsequent emotional reactions indicates that labelling may also indirectly increase some stigmatising reactions. Whilst overall labelling marginally reduced desire for social distance and increased compassion, it also engendered fear toward people with schizophrenia and reduced non-stigmatising attributions of adversity as the cause of intellectual disability.

Labelling intellectual disability had a greater impact on desire for social distance than labelling schizophrenia, as found by Scior and Furnham (in preparation). Among the prevailing ambivalence about contact with people with schizophrenia and intellectual disability, the most optimistic finding was that respondents who were informed of the diagnosis intellectual disability, or identified it themselves, were typically more accepting of social contact.

Concerning schizophrenia, labelling was associated with a small reduction in desire for social distance, while no difference was observed for respondents who identified the unlabelled vignette as schizophrenia or attributed the symptoms differently. This was in line with some previous findings (Jorm & Griffiths, 2008; Scior & Furnham, in preparation), but at odds with a larger body of research that indicates that identifying schizophrenia generates greater desire for social distance

(Angermeyer & Matschinger, 2003a; 2003b; Read, 2007; Read et al., 2006). This may be attributable to differences in how the characteristics of schizophrenia are presented in different studies. For example, studies in which identifying schizophrenia generated desire for social distance tended to mention symptoms such as command hallucinations whereas the IDLS vignette focuses on the character's observable behaviours and internal stimuli are insinuated. Differences in desire for social distance may also represent variance in how the general population of the UK and other countries understand the label schizophrenia (Angermeyer et al., 2004b).

Labelling increased beliefs that biomedical factors cause schizophrenia and intellectual disability, and reduced causal beliefs associated with individuals' environments and experiences of adversity. The effects of identifying schizophrenia and intellectual disability in the absence of the diagnostic labels almost perfectly replicated this pattern of findings. These findings support previous research (Angermeyer & Matschinger, 2003a; 2003b; Read et al., 2006). Labelling was also associated with a direct increase in feelings of compassion, which was predicted for intellectual disability but not for schizophrenia. The findings imply that diagnostic labels increase attributions of biomedical causes and feelings of compassion independently of factors that predict ability to identify schizophrenia and intellectual disability, such as previous contact, gender and educational attainment.

The above findings indicate that the addition of a diagnostic label to descriptions of behavioural characteristics does not directly generate negative emotional reactions or desire for social distance, as implied by Link et al. (2004). In contrast, labelling descriptions of the symptoms of schizophrenia and intellectual disability modestly increased compassion and slightly decreased desire for social distance. One possible benefit of the diagnostic label may be discouraging

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evaluations of the behaviours that are even more stigmatising, such as substance misuse or laziness, which were commonly reported in the absence of the labels. It is important to recognise that the label was supplied in addition to a considerable amount of information about the behavioural symptoms. It is unclear whether these diagnostic labels would generate compassion and decrease desire for social distance on their own or when fewer symptoms are detected by the general public.

In contrast to the positive or neutral direct effects of labelling, consideration of causal beliefs and emotional reactions highlights mixed effects of labelling on public stigma toward people with schizophrenia and intellectual disability. Particularly pertinent for schizophrenia was the effect of labelling on endorsing more biomedical causes. No direct link was found to exist between biomedical causal beliefs and desire for social distance, replicating findings by Jorm and Griffiths (2008) and Bennett et al. (2008). However, attributing the cause of schizophrenia to biomedical factors was associated with an increase in both compassion and fear; these emotional reactions had competing effects on desire for social distance. This finding draws together an ongoing debate in the literature concerning whether biomedical explanations reduce or foster stigma and suggests these processes co-occur.

Attribution theory, which assumes that attributions of cause determine emotional reactions and behavioural responses, may inform understanding of how biomedical beliefs generate both increases and decreases in stigma. Previous research suggests that biomedical causal beliefs diminish the view that individuals are to blame for developing schizophrenia and thus increase compassion and decrease anger (Corrigan et al., 2000). Another body of research indicates that biomedical causal beliefs encourage a notion that individuals lack control over their behaviour

and are potentially unpredictable and dangerous, thus heightening fear (Angermeyer & Matschinger, 2003a; 2005; Read, 2007; Read et al., 2006). The findings of the present research offer support for both pathways, although no association was found between biomedical beliefs and anger. Labelling thus appears to enhance biomedical beliefs, with conflicting effects on emotional reactions and desire for social distance.

An alternative explanation is that biomedical causes vary in their effects on stigma. The biomedical causes included in the IDLS relate to genetic factors, brain abnormality, complications at birth and physical illness. Research has suggested that brain disease is highly stigmatised and associated with evaluations of people with schizophrenia as dangerous, fearful reactions and greater desire for social distance (Dietrich et al., 2006). In contrast, genetic factors tend to be associated with more benign reactions than brain disease (Angermeyer & Matschinger, 2003a; Dietrich et al., 2006; Phelan et al., 2002), albeit they are still associated with perceptions of people with schizophrenia as dangerous (Bennett et al., 2008; Jorm & Griffiths, 2008). Thus the relationship between biomedical causal beliefs and both fear and compassion may be accounted for by variance within the biomedical subscale.

Consideration of causal beliefs about intellectual disability and subsequent emotional reactions also highlights that benefits and costs of labelling seem to co-occur. Biomedical beliefs about the cause of intellectual disability increased compassion and decreased anger, thus reducing desire for social distance. These results precisely fit the pattern of findings that would be predicted based on the theory that biomedical attributions remove blame (Corrigan et al., 2000). There was no evidence of any costs in endorsing a biomedical understanding of intellectual disability, as was observed for schizophrenia. This supports a previous finding that the public positively perceive biomedical causes that do not infer blame (Panek &

Jungers, 2008). Undesirably, labelling reduced attributions of adversity, which were associated with decreased anger and reduced desire for social distance. This effect was specific to explicitly labelling intellectual disability and was not observed in respondents who correctly identified the unlabelled vignette. For intellectual disability, labelling therefore appeared to increase one desirable response with the cost of obstructing another.

Several limitations of the study should be considered. It cannot be assumed that the present findings generalise to the UK general public as females and people educated to degree level were over-represented. Previous research implies that, as a result, the above findings may under-represent the public's stigmatising reactions (Jorm & Oh, 2009). In addition, the findings relate to mild intellectual disabilities and are not intended to generalise to more severe intellectual disabilities.

Issues pertaining to the measurement of stigma also largely replicate those of similar studies, namely that the respondents may not divulge the extent of their negative reactions and that self-reported desire for social distance is at most a behavioural intention and may not accurately indicate actual behaviour. It is also questionable whether the use of a vignette is sufficiently salient to evoke emotional reactions that are experienced during an interpersonal interaction. Feasible alternatives are limited, but research is needed to support the findings to date based on surveys. One possibility may be the use of implicit measures of stigma such as the Implicit Association Test (Greenwald, McGhee & Schwartz, 1998). Finally, there are few situations in which members of the general public will be privy to information about an individual's diagnosis. Whilst the study was able to consider the effects of diagnostic labels on stigma, the responses to the diagnostically unlabelled vignettes arguably represent real-life situations more realistically.

The results highlight the importance of components of the stigma process other than desire for social distance, namely causal beliefs and emotional reactions. This research has found diagnostic labelling to be associated with increased biomedical beliefs and decreased desire for social distance, but this rise in biomedical beliefs has important implications in regard to the types of treatments and interventions that the public may seek (Jorm et al., 1997). It is possible that diagnostic labelling may undermine treatment approaches that do not 'fit' with a biomedical understanding of these problems. Furthermore, categories of causal beliefs, such as biomedical, environment and adversity, may be too broad and more research attention should be given to specific causal beliefs.

Given that explicitly presenting the diagnostic labels of schizophrenia and intellectual disability appears to have a complex effect on public stigma, it is important to consider carefully how labels are used in anti-stigma and public education campaigns. Omitting the use of diagnostic labels overlooks the positive influences these may have on compassion and willingness for social contact. Labels may also avoid stigma associated with the public misattributing the problem. However, diagnostic labels appear to have some unhelpful effects which need to be taken into account in order for anti-stigma campaigns not to inadvertently counteract positive influences, or even cause harm. The findings strongly indicate that the roles of causal beliefs and emotional reactions should be attended to in the planning of anti-stigma campaigns. For example, strategies to promote a broader understanding of the causes of intellectual disability and to tackle fear of people with schizophrenia may be particularly beneficial.

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Part Three: Critical Appraisal

<center>**Introduction**</center>

This appraisal will critically reflect upon some of the key conceptual and methodological issues in exploring the general public's stigmatising reactions toward people with schizophrenia and intellectual disability. More specifically in relation to the present study, issues pertaining to diagnostic labelling and the generalisability of the findings will be addressed in further detail. The appraisal will finally comment on how a significant change in life circumstances affected the research process, with particular consideration given to strategies that were experienced as helpful and could be replicated.

<center>**Conceptual and Methodological Issues**</center>

Stigma is a multi-faceted concept that encompasses harmful beliefs, negative emotional reactions and discriminatory behaviours (Corrigan & Watson, 2002; Link, Yang, Phelan & Collins, 2004; Thornicroft, Rose, Kassam & Sartorius, 2007). The investigation of a concept as broad as stigma inevitably raised conceptual and methodological challenges. The most pertinent of these issues were representing the general public's reactions in real-life situations (termed 'ecological validity'), defining positive emotional reactions and the use of attribution theory in understanding public stigma.

Ecological Validity

The ecological validity of the measures of social distance and emotional reactions are considered separately below.

Social Distance

Social distance scales are the most frequently used indicator of behavioural discrimination. They are convenient to use and enable evidence to be combined across studies (Jorm & Oh, 2009). However, it is unclear whether self-reported desire

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for social distance in response to a vignette is a sufficient representation of how the general public actually reacts to people with schizophrenia or a mild intellectual disability. As yet, the validity of social distance scales is only supported by findings that social distance varies toward people with different types of problems and correlates with the amount of prior contact the general public self-report (Jorm & Oh, 2009). Validation using measures of behaviour that are not based on self-report is outstanding.

Some attempts have been made to include behavioural measures as a supplement to social distance scales, such as giving respondents the choice to donate money earned for participation in the study to a relevant charity (Corrigan et al., 2002). However, both forms of measurement may be susceptible to perceived pressure to respond in a socially desirable way and thus real-world interaction is not necessarily simulated. Behavioural indicators of stigma also present obvious problems for large-scale research and seem better suited to smaller studies that assess the efficacy of anti-stigma interventions. The use of a social distance scale as a proxy measure of behavioural discrimination seemed appropriate for the purposes of the present study, albeit while recognising the limitations in regard to ecological validity.

Emotional Reactions

As highlighted in the literature review, the importance of emotional reactions in the stigma process is indicated by theoretical models of public stigma and research. For this reason, the Intellectual Disability Literacy Scale (IDLS, Scior & Furnham, 2011) was adapted to include a measure of emotional reactions.

Similar to concerns regarding social distance, it is questionable whether the vignettes were salient enough to stimulate the emotional reactions that are experienced in social interactions with people with schizophrenia or mild intellectual

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disability. Reports of anger were particularly low, replicating previous research (Angermeyer & Matschinger, 1997; 2003; Crespo, Perez-Santos, Munoz & Guillen, 2008; Flanagan & Davidson; 2009). Measures were taken to address the statistical implications of this, but no differences to the reported findings were observed. This included using the *f*-statistic, often considered to be more robust (Field, 2009) and Bootstrapping. Bootstrapping is a process that uses subsamples of the data and is an alternative procedure when parametric assumptions are in doubt. Based on the findings of the present study and previous research, it seems questionable whether it was worthwhile to measure anger toward people with schizophrenia. Anger toward people with mild intellectual disabilities was not commonly expressed but, in contrast to schizophrenia, the path model suggested that anger is an important component of the public's stigma.

A further consideration is that respondents may not have felt comfortable in reporting feelings such as anger, which is clearly distinct from low occurrence of these emotional reactions. In support of this notion, it appears that respondents are considerably more likely to report that "most people" are frightened of people with schizophrenia than report their own fear (Levey, Howells & Cowden, 1995; Murphy, Black, Duffy, Kieran & Mallon, 1993). While this might be an experimental artifact caused by respondents presenting themselves in a more desirable light, this is potentially a more indirect and acceptable way for respondents to report their own feelings. Considering this, it may have been problematic to assume that assurances of anonymity adequately supported respondents in reporting their honest reactions. Alternative ways of facilitating disclosure of uncomfortable reactions warrants further exploration.

Positive Emotional Reactions

Defining positive emotional reactions is complex. The term 'compassion' was used in this study to summarise the items relating to sympathy and empathy. Most research that examines emotional reactions has referred to pity and sympathy as positive emotional reactions. Pity is a particularly contentious term. One study interpreted reports of increased pity as more stigmatising (Crespo et al., 2008) and another concluded that reductions in pity equate to greater empowerment and thus less stigma (Corrigan, Larson, Sells, Niessen & Watson, 2007). The issue of conceptualising pity as positive is particularly important given the suggestion that pity, and behaviours routed in pity, propagate stigma by establishing difference between "us and them" (Link et al., 2004). It seems that the debate centers on the way different researchers use and identify language. Qualitative research that examines the actual language used by members of the general public may be useful in determining the sentiment of their reactions. Measures of emotional reactions could possibly be developed by incorporating the language that service users experience as desirable or stigmatising rather than researchers.

The Use of Attribution Theory

Contemporary understandings of public stigma differentiate cognitive, emotional and behavioural reactions (Corrigan et al., 2002; Link et al., 2004; Thornicroft et al., 2007). One benefit of attribution theory is that it focuses on specific and identifiable beliefs, feelings and behaviours. This structure was helpful in gaining a relatively detailed understanding of the impact of diagnostic labels on causal beliefs and emotional reactions.

This was the first known study that developed path models between specific causal beliefs, emotional reactions and social distance in relation to schizophrenia

and intellectual disability. Other research based on the same theoretical framework has focused on the ways in which individuals are appraised based on attributions of cause rather than the causes themselves. These appraisals include judgements of individuals as blameworthy, dangerous or having a poor prognosis (Corrigan et al., 2002; Corrigan, Markowitz, Watson, Rowan & Kubiak, 2003; Panek & Jungers, 2008). Consideration of the links between specific causal beliefs and emotional reactions, for schizophrenia and intellectual disability separately, emerged as one of the main strengths of this study. The findings indicated that one type of causal attribution does not necessarily have a single effect on the way in which the general public reacts. Instead, complex relationships between these reactions led to incongruous influences on reported behavioural reactions. Replication of these findings is needed.

The research literature indicates that causal attributions and judgements about an individual based on the perceived cause are both important, yet very little research has examined them simultaneously. Links between causal beliefs and appraisals appear to be assumed by researchers more frequently than they are measured. This has been particularly problematic in regard to assumptions about the positive and negative consequences of biomedical causal beliefs. Based upon this, an important next step for researchers would appear to be the development of an evidence base focused on links between specific causal attributions, such as genetics or poor parenting, and specific appraisals, such as blameworthy or dangerous. This may provide more clarity and help ensure that educational material and anti-stigma campaigns have the intended effects of reducing the general public's stigma toward people with schizophrenia and intellectual disabilities.

As well as the helpful aspects of attribution theory, there were also limitations associated with this framework. Most notable was the linear nature of the relationships between diagnostic labels, causal beliefs, emotional reactions and desire for social distance. For example, there is no evidence that cognitions about cause necessarily occur before emotional reactions. It may be overly restrictive to presume that these processes always take place in this order. Thus the structure provided by attribution theory was ironically a predominant strength and a key limitation.

Diagnostic Labelling

As an extension of the empirical paper, some further issues and implications of diagnostic labelling will be discussed.

Presentation of the diagnostic labels of schizophrenia and intellectual disability did not mean that respondents held a shared understanding of the difficulties portrayed in the vignettes. Inevitably, respondents' prior knowledge and experiences would have led to idiosyncratic understandings of the diagnostic categories. It was infeasible to control for all these differences and detrimental to external validity. The findings are best viewed as indications of the general public's reactions toward broad categories of difficulties rather than precise constructs. This is not considered to be problematic as the diagnostic categories of schizophrenia and intellectual disability are fairly broad. Despite any variation in how the labels were interpreted by respondents, the presentation of diagnostic labels appeared to have an overriding pattern of influence on causal beliefs, emotional reactions and desire for social distance.

It might be questioned whether labelling has bearings on everyday stigma given that it would be unusual for someone to have definite knowledge of another person's diagnosis in most social scenarios. However, a substantial minority of the

general public are able to identify diagnostic categories based on observable behaviours (Angermeyer & Matschinger, 2003; Scior & Furnham, 2011). The findings imply that these people react to the diagnostic category in general and not just to the observable characteristics of the individual in question. Having said this, it would be unwise to assume that informing respondents of the diagnosis of a character in a vignette exactly simulates how they would react to being informed that a person known to them has the same diagnosis (Jorm & Oh, 2009).

The implications of diagnostic labelling are wider than this study was able to address, including reactions of the general public other than those measured. For example, treatment beliefs are associated with how difficulties are identified (Jorm et al., 1997). Particularly important to keep in mind are the ramifications for the people who are labelled. It is worth acknowledging some theoretical perspectives about the consequences of being labelled. These theoretical perspectives seem to underline the conclusion of the present study that diagnostic labels have positive and negative influences and should be used with care. As an example of negative repercussions, labelling theory purports that people who are labelled gradually and unconsciously change their behaviour to fulfil the negative stereotypes associated with the label (Scheff, 1966). A more contemporary understanding is the flipside of Link et al.'s (2004) conceptualisation of public stigma. They suggested that labelled people come to believe that the label means they have undesirable characteristics, are inferior to other people and deserve to be segregated. They experience segregation on an individual level and through structural discrimination, associated with emotional experiences of shame, fear or anger.

A more positive implication of labelling is that individuals who experience schizophrenia and intellectual disability may be blamed less for their difficulties

(Corrigan, et al., 2003). Expectations of prognosis have been deemed more realistic in the presence of a diagnostic label (Angermeyer & Matschinger, 1997). The authors speculated that labelling therefore circumvents negative consequences of overoptimistic assumptions about their prognosis. While the impact of labelling on public stigma was the focus of the research rather than self-stigma, an important progression of this research will be to consider the views of service users about these findings and implications.

Generalisability of the Findings

The external validity of the findings was compromised by the use of a sample that over-represented females and people with greater educational attainments. These factors are associated with more sympathetic responses (Jorm & Oh, 2009), so it is possible that the current findings underestimate the presence of stigmatising reactions toward people with schizophrenia and intellectual disabilities in the UK.

Incentivised recruitment of participants had the potential to increase access to a wide range of respondents, but it is possible that unintended biases inadvertently increased the number of female respondents and people with high educational attainment (Gardner, 2009). One key disadvantage of the sampling method was the lack of control in recruiting respondents who fully represented the general population.

Researchers may chose to focus on achieving a more representative sample, akin to population studies in Germany led by Matthias Angermeyer and Herbert Matschinger. However, in the absence of extensive financial and time resources the size of the sample is a likely sacrifice and this would negatively affect representativeness and generalisability. Also, even when research has satisfactorily reflected the known socio-demographic make-up of the wider population, the

generalisability of the findings was still compromised by unidentified biases in the decision to take part. The response rate in the current study was 65%, in line with similar research (e.g. Angermeyer & Matschinger, 2003; Lauber, Nordt, Falcato & Rössler, 2003), meaning that the views of a considerable proportion of the general public were unrepresented.

Another issue of generalisability was that the survey specifically related to schizophrenia and mild intellectual disability. Therefore the findings should not be assumed to apply to people with other mental health problems or more severe forms of intellectual disabilities.

The Impact of a Significant Life Event on the Research Process

In the early stages of planning my DClinPsy thesis my mother became critically ill and was subsequently diagnosed with a terminal illness. This meant that I began my thesis several months late.

Fulfilling the demands of research in addition to adjusting to my new role as a carer has been a challenging experience. Reflections about the strategies that were helpful might provide useful insights into how I and other researchers could succeed in balancing research and significant life events in the future. The main strategies that developed throughout the research process were communication with my supervisor, keeping process notes, taking advantage of the flexibility that research permits and increasing use of external supports. These strategies will be considered in turn.

Communication with my supervisor throughout the research process has been crucial. My supervisor and I agreed for my role as a carer to be a permanent item on our supervision agenda. As well as discussing practical issues such as carer's leave, I used supervision to reflect about the impact of being a carer on my ability to focus

and manage the stresses of research. I think this openness helped contain my anxieties when I needed to inform my supervisor that my progress with research had been impeded. In turn, I wonder if this helped my supervisor support me rather than feel frustrated when I did not meet an agreed goal.

There were various challenges to overcome, but some aspects of being a researcher complimented having other significant commitments. For example, research permits some flexibility in hours of work and many tasks can be completed from home. This inherent flexibility facilitated my attendance at appointments and helped accommodate the often unpredictable requirements of being a carer.

However, sometimes it was difficult to split my attention between research and being a carer and a useful strategy was to 'compartmentalise' the two roles. Although artificial, this outlook helped me to contain each role. This meant that day-to-day difficulties associated with one role did not exacerbate stress associated with the other. Detailed process notes that recorded my ideas and discussions in supervision enabled me to return to my research with minimal disruption following any foreseen or unexpected interruptions. These records also helped maintain a sense of control.

Research was sometimes a helpful distraction from other stresses, but managing the roles of researcher and carer could be isolating. For example, I had fewer opportunities to access my support network and to make use of my usual coping strategies. A key learning point was to widen and make more use of the network of support. This meant that rather than struggling to cope with both sets of demands as was the case at the start of the research process, I was able to feel more confident in prioritising my research when necessary.

Overall, managing the combined stresses of research and significant changes in my life circumstances has been demanding. However, throughout the process I came to realise that the challenges could be considerably eased, if not always overcome.

Conclusions

Overall the study indicated the complex effects of diagnostic labelling on public stigma toward people with schizophrenia and mild intellectual disabilities. This appraisal drew attention to some of the conceptual and methodological challenges that qualify this finding. Key issues related to public stigma research in general were identified as the limitations of using vignette-based surveys, reliance on self-report measures and a lack of consensus as to what defines a positive reaction. More specific to this study were the implications of diagnostic labelling, which tend to evoke strong reactions in the literature, and limits to the generalisability of the findings to the UK general public.

In hindsight I would have focused more on recruiting males and people with fewer educational attainments. It may have also been beneficial to have also included specific appraisals about people with schizophrenia and intellectual disabilities.

There are multiple avenues for further research. The necessity for more ecologically valid ways of assessing stigma is particularly highlighted. The perspectives of people who are given the diagnostic labels of schizophrenia and intellectual disability could be valuable in determining areas of progress for future public stigma research.

In addition to the critical appraisal of the research itself, it is hoped that the reflections on the process are also of benefit to further research.

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The Intellectual Disability Literacy Scale (IDLS, Scior & Furnham, 2011)

UCL

Attitudes towards people experiencing difficulties

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.

Purpose of the research
We are interested in finding out more about attitudes in the general population towards people with various types of difficulties.

Completing this questionnaire will take you about 15 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 Amazon vouchers (or a shop of your choice).

The person who recruits most people to the study will earn £30 in Amazon vouchers (or a shop of their choice). At the end of the survey you will be asked to give the name or the person who told you about this study.

All data will be collected and stored in accordance with the Data Protection Act 1998.

Principal Investigator: Theresa Connolly, Clinical, Educational & Health Psychology, University College London, London WC1E 6HJ; Email: t.connolly@ucl.ac.uk
This study has been approved by the UCL Research Ethics Committee (Project ID Number: 0960/001)

Your completed questionnaire can be returned FREE to:

FREEPOST University College London
(Clinical, Educational & Health Psychology - Ref: Scior)
Gower Street
London, WC1E 6BT

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 sources of help. 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.

> *James is 22 and lives at home with his parents and younger brother. He found school a struggle and left without any qualifications. He has had occasional casual jobs since. When his parents try to encourage him to make plans for his future, James has few ideas or expresses ambitions that are well out of his reach. Rather than having him at home doing nothing, his mum has been trying to teach James new skills, such as cooking a meal, but James has struggled to follow her instructions. He opened up a bank account with his parents' help, but has little idea of budgeting and, unless his parents stop him, will spend all his benefits on comics and DVDs as soon as he receives his money.*

1. What would you say is going on with James?

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

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

		1	2	3	4	5	6	7
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

3. 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	2	3	4	5	6	7
1.	overly spoilt as a child	1	2	3	4	5	6	7
2.	virus / other infection that affects the brain	1	2	3	4	5	6	7
3.	lack of daytime occupation	1	2	3	4	5	6	7
4.	possession by spirits	1	2	3	4	5	6	7
5.	family arguments	1	2	3	4	5	6	7
6.	financial worries	1	2	3	4	5	6	7
7.	punishment for own past wrongdoings	1	2	3	4	5	6	7
8.	strong religious or spiritual beliefs	1	2	3	4	5	6	7
9.	genetic factors	1	2	3	4	5	6	7
10.	suffering abuse as a child	1	2	3	4	5	6	7
11.	recent traumatic incident such as traffic accident	1	2	3	4	5	6	7
12.	punishment for parents' wrongdoings	1	2	3	4	5	6	7
13.	very poor schooling	1	2	3	4	5	6	7
14.	complications at time of birth	1	2	3	4	5	6	7
15.	being from a single-parent family	1	2	3	4	5	6	7
16.	parents too lenient	1	2	3	4	5	6	7
17.	lack of an intimate relationship	1	2	3	4	5	6	7
18.	brain abnormality	1	2	3	4	5	6	7
19.	a test from God / Allah	1	2	3	4	5	6	7
20.	recent death of relative or close friend	1	2	3	4	5	6	7
21.	meningitis	1	2	3	4	5	6	7
22.	isolation from extended family	1	2	3	4	5	6	7

4. Please indicate the extent to which you agree that the following are <u>likely to be effective</u> in helping someone like James overcome his difficulties, using this scale:

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

		1	2	3	4	5	6	7
1.	get him to take more responsibility	1	2	3	4	5	6	7
2.	turn to close family	1	2	3	4	5	6	7
3.	visit his GP (General Practitioner)	1	2	3	4	5	6	7
4.	get out more	1	2	3	4	5	6	7
5.	pray	1	2	3	4	5	6	7
6.	see a counsellor	1	2	3	4	5	6	7
7.	see a psychiatrist	1	2	3	4	5	6	7
8.	see a religious person / clergy	1	2	3	4	5	6	7
9.	get a job	1	2	3	4	5	6	7
10.	get a good talking to from his parents	1	2	3	4	5	6	7
11.	see a social worker	1	2	3	4	5	6	7
12.	more physical activity	1	2	3	4	5	6	7
13.	psychological treatment	1	2	3	4	5	6	7
14.	get careers advice	1	2	3	4	5	6	7
15.	attend a place of worship more often	1	2	3	4	5	6	7
16.	see a spiritual or faith healer	1	2	3	4	5	6	7
17.	socialise more	1	2	3	4	5	6	7
18.	take prescribed psychiatric medication	1	2	3	4	5	6	7
19.	make him face up to reality	1	2	3	4	5	6	7
20.	find a girlfriend/ wife	1	2	3	4	5	6	7
21.	go on holiday	1	2	3	4	5	6	7
22.	be more religious	1	2	3	4	5	6	7

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

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

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

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

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

> Adam is 24 and lives at home with his parents. He did fine at school, but has only had a few casual jobs since. Over recent months he has spent lots of time alone, locked in his bedroom and frequently refuses to eat with his parents or have a bath. He sometimes gets very agitated for little apparent reason and his parents have heard him talking loudly even when he's alone in his bedroom. At times they find his speech disorganised and hard to follow. When his parents encourage him to make plans for his future he says this is too dangerous. They are certain he is not taking drugs because he never sees anyone or goes anywhere.

1. What would you say is going on with Adam?

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

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

1.	Adam 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 something like that	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

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

1. overly spoilt as a child	1	2	3	4	5	6	7
2. virus / other infection that affects the brain	1	2	3	4	5	6	7
3. lack of daytime occupation	1	2	3	4	5	6	7
4. possession by spirits	1	2	3	4	5	6	7
5. family arguments	1	2	3	4	5	6	7
6. financial worries	1	2	3	4	5	6	7
7. punishment for own past wrongdoings	1	2	3	4	5	6	7
8. strong religious or spiritual beliefs	1	2	3	4	5	6	7
9. genetic factors	1	2	3	4	5	6	7
10. suffering abuse as a child	1	2	3	4	5	6	7
11. recent traumatic incident such as traffic accident	1	2	3	4	5	6	7
12. punishment for parents' wrongdoings	1	2	3	4	5	6	7
13. very poor schooling	1	2	3	4	5	6	7
14. complications at time of birth	1	2	3	4	5	6	7
15. being from a single-parent family	1	2	3	4	5	6	7
16. parents too lenient	1	2	3	4	5	6	7
17. lack of an intimate relationship	1	2	3	4	5	6	7
18. brain abnormality	1	2	3	4	5	6	7
19. a test from God / Allah	1	2	3	4	5	6	7
20. recent death of relative or close friend	1	2	3	4	5	6	7
21. meningitis	1	2	3	4	5	6	7
22. isolation from extended family	1	2	3	4	5	6	7

4. Please indicate the extent to which you agree that the following are <u>likely to be effective</u> in helping someone like Adam overcome their difficulties, using this scale:

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

		1	2	3	4	5	6	7
1.	get him to take more responsibility	1	2	3	4	5	6	7
2.	turn to close family	1	2	3	4	5	6	7
3.	visit his GP (General Practitioner)	1	2	3	4	5	6	7
4.	get out more	1	2	3	4	5	6	7
5.	pray	1	2	3	4	5	6	7
6.	see a counsellor	1	2	3	4	5	6	7
7.	see a psychiatrist	1	2	3	4	5	6	7
8.	see a religious person / clergy	1	2	3	4	5	6	7
9.	get a job	1	2	3	4	5	6	7
10.	get a good talking to from his parents	1	2	3	4	5	6	7
11.	see a social worker	1	2	3	4	5	6	7
12.	more physical activity	1	2	3	4	5	6	7
13.	psychological treatment	1	2	3	4	5	6	7
14.	get careers advice	1	2	3	4	5	6	7
15.	attend a place of worship more often	1	2	3	4	5	6	7
16.	see a spiritual or faith healer	1	2	3	4	5	6	7
17.	socialise more	1	2	3	4	5	6	7
18.	take prescribed psychiatric medication	1	2	3	4	5	6	7
19.	make him face up to reality	1	2	3	4	5	6	7
20.	find a girlfriend/ wife	1	2	3	4	5	6	7
21.	go on holiday	1	2	3	4	5	6	7
22.	be more religious	1	2	3	4	5	6	7

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

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

6. Have you ever had problems similar to Adam's?   Yes / No

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

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

About you:

Male / Female	Age:	Occupation:

Ethnicity:	Education:
White British ☐ Black British ☐ White Irish ☐ Black Caribbean ☐ Indian ☐ Black African ☐ Pakistani ☐ Middle Eastern ☐ Other, please specify ………………………………….	*(Please tick highest)* Primary School ☐ To age 16, e.g. GCSE ☐ University Degree ☐ To age 18, e.g. A-Level ☐ 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: Buddhist ☐ Christian ☐ Hindu ☐ Jewish ☐ Muslim ☐ Sikh ☐ Non-religious ☐ 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 ←—┼——┼——┼——┼——┼——┼——→

How often do you visit a place of worship?   Never / At most twice a year / 3 to 6 times a year / Fairly regularly / At least once a week

Do you known anyone who experiences mental health problems? Yes / No Type of mental health problem:	If yes, in what capacity to you know them? (e.g. sibling, distant cousin, fellow pupil, colleague etc) …………………………………………………
How often do you see this person? On average ……… times per month / year *(please delete)* (If you know more than one person, please answer in relation to the person closest to you.)	How close is this person to you? *(Please circle the corresponding point on the line)* Not at all close Extremely close ←—┼——┼——┼——┼——┼——┼——→
Do you know anyone with learning disabilities (mental handicap)? Yes / No	If yes, in what capacity to you know them? (e.g. sibling, other relative, fellow pupil, colleague etc) …………………………………………………
How often do you see this person? On average ……… times per month / year *(please delete)* (If you know more than one person, please answer in relation to the person closest to you.)	How close is this person to you? *(Please circle the corresponding point on the line)* Not at all close Extremely close ←—┼——┼——┼——┼——┼——┼——→

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Prize Draw

Thank you very much for completing the survey! 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 Amazon vouchers (or a shop of your choice). Your name and contact details will immediately be separated from your other responses and your responses will be kept anonymous.

Name:………………………………………………….......

Telephone Number:…………………………….......   E-mail address:…………………………………………………

Please enter the details of the person who told you about this survey. They will have a chance of earning £30 in Amazon vouchers (or a shop of their choice). Their contact details will immediately be separated from your other responses.

Name:………………………………………………….......

Telephone Number:…………………………….......   E-mail address:…………………………………………………

Appendix B:

Amended Versions of the IDLS Vignettes

Adam was recently diagnosed as having schizophrenia. He is *24 and lives at home with his parents.* He did fine at school, but has only had a few casual jobs since. Over recent months he has spent lots of time alone, locked in his bedroom and frequently refuses to eat with his parents or have a bath. He sometimes gets very agitated for little apparent reason and his parents have heard him talking loudly even when he's alone in his bedroom. At times they find his speech disorganised and hard to follow. When his parents encourage him to make plans for his future he says this is too dangerous. They are certain he is not taking drugs because he never sees anyone or goes anywhere.
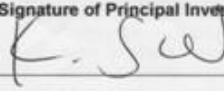
James has a learning disability (mental handicap). He is 22 and lives at home with his parents and younger brother. He found school a struggle and left without any qualifications. He has had occasional casual jobs since. When his parents try to encourage him to make plans for his future, James has few ideas or expresses ambitions that are well out of his reach. Rather than having him at home doing nothing, his mum has been trying to teach James new skills, such as cooking a meal, but James has struggled to follow her instructions. He opened up a bank account with his parents' help, but has little idea of budgeting and, unless his parents stop him, will spend all his benefits on comics and DVDs as soon as he receives his money.

Appendix C:

Ethical Approval

UCL RESEARCH ETHICS COMMITTEE

Amendment Approval Request Form

1	ID Number:	Name and Address of Principal Investigator:
	0960/001	Dr Katrina Scior Research Dept of Clinical, Educational & Health Psychology UCL

2	Project Title: Public knowledge and attitudes towards intellectual disability: a cross-cultural and cross-religion study

3	Information about the amendment:
	(a) Is the amendment purely administrative? ☐ Yes ☒ No ☐ N/A
	(b) Has the Participant Information Sheet/Consent Form been changed as a result of the amendment? If yes, please enclose a copy. ☒ Yes ☐ No ☐ N/A

4	Summarise the issues contained in the amendment:
	1) I am looking to extend this study to study knowledge about learning disability in more depth, alongside a continued focus on attitudes. For this purpose a new measure has been designed which will be administered alongside the questionnaires used in the original study (copy of all research materials enclosed).
	2) The information sheet has been amended- as we are looking to investigate whether respondents can identify on the basis of two vignettes whether a fictitious person has a learning disability or is experiencing mental health problems the study is described in more general terms as concerning "people experiencing difficulties" without explicit reference to learning disability or mental health as this would be leading.
	3) Recruitment will be both in person and web based.
	4) Given that the early results from this research have been very promising, I have decided to take this work further and have been accepted to complete this study for the purposes of obtaining a part-time PhD (due to register April 2009). Therefore the scale and timeframe of the study will be much larger than originally detailed and completion is not due until March 2013.

5	Please give any other information you feel may be necessary:
	N/A

Signature of Principal Investigator:	Date of Submission:
	29.1.2009

FOR OFFICE USE ONLY:

Amendments to the proposed protocol have been *approved* by the Research Ethics Committee. *until March 2013*

Chair's Signature: Date: 4/2/2009.

Please return completed form to:

Secretary of the UCL Research Ethics Committee
Graduate School, North Cloisters, Wilkins Building
Gower Street, London WC1E 6BT