Investigating third year medical students' racial and mental health attitudes

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Thesis Overview

Chapter One consists of a systematic review summarising 16 published papers between 2003 and 2013, exploring differences in how physicians interact with Black and Minority Ethnic (BME) patients in comparison to non-BME patients during medical encounters. As the last systematic review was published in 2006 and only incorporated published papers up until 2003, this chapter aims to provide the reader with a comprehensive and current understanding of differences in physicians' interactions, (operationalised as communication behaviours) across patients' race. The review then moves on to examine the main variables proposed by the literature to account for differences observed. While considerable attention has been given to patients' race as an explanatory variable for differences in physicians' communication between BME and non-BME patients, the review highlights gaps in the literature which could be areas of a further study.

Chapter Two presents the empirical paper which has been written with the intention to be submitted for publication to the journal titled *Patient Education and Counselling*. As past research has predominantly focused on patients' race accounting for the variability in physicians' communication behaviours during medical encounters with patients, little attention has been given towards the processes in which patients' race may influence physicians' communication with patients. Therefore the empirical paper contributes to existing research by developing an understanding of the relationship between patients' race, physicians' attitudes towards patients and clinical communication with a simulated patient. The empirical paper uses a cross-sectional repeated measures longitudinal design with a cohort of third year medical students during their six week introductory psychiatry teaching module, to explore students' conceptualisations of mental illness and their racial and mental health attitudes. Based upon the findings, clinical implications are discussed.

Chapter Three contains a concluding discussion section which combines an expanded discussion, a brief report of the study to professionals, and directions for future research.

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The expanded discussion section highlights the overall research findings from the empirical paper with relevant literature and focuses on clinical implications and methodological considerations of the research. The second section contains a comprised and accessible version of the main study report for psychiatrists involved with delivering the introductory psychiatry teaching module. Lastly, the final section discusses possible directions for future research. Suggestions for ways in which considerations identified in the empirical paper can be addressed in future research are discussed and a brief research proposal for a future study is provided.

Chapter 1: Systematic Literature Review

The impact of patients' race and ethnicity on physician-patient

communication: A systematic review

Abstract

Objective: To develop a current understanding of the differences in how physicians communicate with Black and Minority Ethnic (BME) patients in comparison to non-BME patients.

Methods: Systematic searches of electronic databases and references lists were performed. Data from the included studies were extracted in line with the review's aims, and the studies' quality was assessed using a standardised criteria.

Results: Sixteen studies were included. The results indicated that physicians communicated differently with BME patients compared to non-BME patients as a consequence of patients' race. Physicians were found to show less participative and affective behaviours towards BME patients and black patients received more information giving behaviours than other ethnicities. Additionally, BME patients displayed less conversational behaviours in comparison to non-BME patients. Studies have also begun to relate other culture related variables to communication but their relationship was less established.

Conclusion: While physicians' communication behaviours varied across patients' race, there still continues to remain a gap in relation to the literature base being able to sufficiently explain, (a) how race exerts its effect on physician communication and (b) what other variables can account for the differences in physicians' communication. This gap may reflect the complexity of communication and the measures used. The review firstly reinforces the need for a diverse workforce and the necessity to incorporate affective dimensions of communication in physicians' cultural communication training, and secondly, calls for future research to expand explanations beyond patients' race.

Keywords: Physician-patient communication, Ethnic minority, Racial/ethnic disparities, Systematic review

1. Introduction

Communication during face-to-face interactions remains a fundamental component of patient centred care (Henry, Fuhrel-Forbis, Rogers, & Eggly, 2012). Therefore the manner in which physicians communicate with their patients is as crucial as the information being communicated (Travaline, Ruchinskas, D'Alonzo, 2005).The importance of communicating effectively with patients has been well documented (Baile & Aaron, 2005; Beck, Daughtridge, & Sloane, 2002; Ong, De Haes, Hoos, & Lammes, 1995); and evidence that good physician communication is linked to patient satisfaction, patient adherence to treatment, patients' understanding of their health problems and the amount of information the patient has shared with their physicians, has been established (Arora, 2003; Kaplan, Greenfield, & Ware, 1989; Ong, et al., 1995).

1.1 Racial Disparities in Care

Although good physician-patient communication brings tangible benefits, gaps in communication can adversely affect patients' care and health outcomes (Travaline et al., 2005); and it is not unheard of for patients to still continue to receive poor quality health care (Maguire & Pitceathly, 2002). Studies have revealed greater disparities in the receipt of technical aspects of care with regards to tests, therapies and procedures among Black and Minority Ethnic (BME) patients compared to non-BME patients, with BME patients often receiving less than optimal health care (Smedley, Stith, & Nelson, 2003). For example, studies found that BME patients had poorer outcomes from treatable conditions such as cardiovascular disease, cancer, and HIV/AIDS (Shiefer, Escarce, & Schulman, 2000; Bach, Cramer, Warren, & Begg, 1999; Moore, Stanton, Gopalan, & Chaisson, 1994). BME patients were also found to have longer waiting times, fewer referrals made to services and less access to tests (Smedley et al., 2003).

Studies examining whether racial disparities in healthcare persist after controlling for patient demographic characteristics have produced mixed results. Some studies have shown persistent race effects (Levinson et al., 2008; Zapka, Carter, Carter, Hemessy, Kurent, & Deshrnais, 2006; Kressin &

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Petersen, 2001); while others found that race effects disappeared (Gordon, Street, Kelly, Souchek, & Wray, 2005), or a combination of both (Johnson, Saha, Arbolaez, Beach, & Cooper, 2004). Therefore, alternatively, it has been suggested that racial disparities in healthcare may have emerged from the context of physician-patient relationship and communication (Ferguson, Lucy, & Candib, 2002; Smedley et al., 2003; Schouten & Meeuwesen, 2006). This is because a) socio-economic factors and other patients' factors have not been able to fully account for the differences and b) studies have also shown that racial disparities have often emerged after patients have accessed care and not from difficulties in getting to the physician (Ashton et al., 2003).

1.2 Communication and Patients' Race

Patients' race and ethnicity have often been cited as barriers in establishing an effective physician-patient relationship (Penn, Kar, Kramer, Skinner & Zambrana, 1995: Kleinman, 1980). A sizable literature base has reported that patients in racial discordant relationships with their physician (physician and patient are of different race) experienced higher levels of miscommunication, misunderstanding and lower satisfaction during their medical consultations (Saha, Komaromy, Koepsell, & Bindman, 1999; LaVeist, Nuru-Jeter, & Jones, 2003; Ashton et al., 2003). These findings are of importance and warrant further exploration if it is presumed that BME patients in the United Kingdom (UK) are more likely to have race discordant relationships (given that the General Medical Council [GMC; 2011] reported that 26% of physicians were from a BME background).

1.3 Current Position of the Literature

Three literature reviews have examined racial disparities in physician communication towards BME patients (Smedley et al., 2003; Ferguson et al., 2002; Schouten & Meeuwesen, 2006) and concluded that the literature base indicated that differences existed in how physicians communicated with BME patients in comparison to non-BME patients. Patients' race and ethnicity were found to influence physician-patient communication, whereby interpersonal (relationship building utterances) and instrumental (exchange of information) communication behaviours were worse towards BME patients (Ferguson et al., 2002; Schouten & Meeuwesen, 2006). These findings are of interest, given it is well

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established that poor physician–patient communication is associated with poor health outcomes (Baile & Aaron, 2005; Beck, Daughtridge, & Sloane, 2002; Ong et al., 1995). Additionally, Schouten & Meeuwesen (2006) looked at patient communication behaviours and found that BME patients were less verbally expressive, assertive and affective during the medical encounters than non-BME patients. However, what were less clear from these previous reviews were the reasons why physicians communicated less favourably towards BME patients in comparison to non-BME patients.

Also the majority of the literature has focused on the United States (US), therefore external validity of these studies to other countries including the UK is unclear. However, what is known is that in both the US and UK race and ethnicity plays a very important role within clinical encounters (Exworthy, Blane, & Marmot, 2003), and as such, health disparities issues have been 'reintroduced' by US and UK policy makers (Exworthy, Bindman, Davies, & Washington, 2006).

To date, the last review was conducted by Schouten and Meeuwesen (2006). Although the reviewers concluded that disparities largely existed, they found that the literature base was partly inconsistent across a number of aspects of physicians' communication behaviours. They also highlighted that the literature base was unable to go beyond merely describing the differences in physician-patient communication and lacked an understanding of other possible explanatory mechanisms that may exert their effects on physician communication through patients' race and ethnicity; for example, physicians' bias, cultural norms, patient communication or the type of relationship the patient has with the physician (van Ryan & Burke, 2000; Ashton et al., 2003).

1.4 Rationale & Objectives

Until elements of patient and physician variables are untangled and fully explained, assumptions about differences between physicians' communication towards BME and non-BME patients are merely conjectures (Smedley et al., 2003). Although previous reviews have been conducted, the last review was seven years ago by Schouten & Meeuwesen (2006). In their review they had only reviewed a handful of observational studies up until 2003. Therefore the current review will provide

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an up to date picture of the literature base through evaluating whether differences in physicians' communication continue to exist between BME and non-BME patients across different study designs. This is of great importance given the increased likelihood of physicians seeing patients from different race and ethnicities and the 're-emergence' of health disparities issues in policies (Exworthy et al., 2006). Secondly, the current review will expand upon the previous reviews by examining papers from 2003 to 2013 and will attempt to make clear some of the inconsistences reported by the previous reviews. Thirdly, the current review will not only attempt to identify the disparities, but also evaluate whether there are key predictors to these disparities and the mechanisms which may contribute to communication differences in physicians.

1.4 Definitions

The term 'BME' was defined as individuals whose cultures and origins differed from the majority of the country's population in which they resided (Solomos & Back, 1996). Ethnicity is commonly based on a combination of categories including: 'race', skin colour, national and regional origins and language (Bulmer, 1996). However, throughout this literature the terms race and ethnicity have been used interchangeably.

Physician-patient communication refers to verbal and non-verbal processes (Bakić-Mirić & Bakić, 2008) through which a doctor obtains accurate information (to facilitate a diagnosis and counsel appropriately) and shares information with the patient (Bakić-Mirić & Bakić, 2008).

1.6 Review Question

How do physicians communicate differently with BME and non-BME patients, and how do studies explain these differences?

2. Methods

2.1 Search Strategy

An electronic search pertaining to the review question was carried out on 6th March 2013, across ERIC, OVID Medline, Psychinfo, CINAHL , Science Direct, Psyarticles and ProQuest Dissertation and Theses electronic databases. These databases were chosen to span the search across the most relevant clinical and educational databases. As the last review included studies up until 2003, articles that were published between 2003 to 6th October 2013 were retrieved in the current review.

An advanced search using a combination of the following terms were used to search the seven databases: (race* or attitude* or prejudice* or stigma or bias) and (medic* or doctor or student or physician) and (BME or ethnic* or minority*) and (communication*). Truncation was applied to the search terms indexed with an asterisk.

The inclusion and exclusion criteria used to assess all included studies' eligibility is summarised in Table 1. Due to the reported negative attitudes associated with people with substance misuse (Foster & Richmond, 2003) and HIV (Pickles, King, & Belan, 2009) and the language barriers associated with people with intellectual disabilities (Chew, Lacono, & Tracy, 2009); these populations were excluded to minimise potential biases.

Table 1

Inclusion and Exclusion Criteria

Inclusion criteria	Exclusion criteria
• English language journal	• Substance misuse population
• Physician-patient communication behaviours	• HIV population
• Communication directly measured through evaluations of an audio or videotape recording, or indirectly through evaluation of the reported perceptions of the patients, doctors or both.	• Did not focus on communication behaviours (e.g.- studies looking at treatment outcomes, attitudes or treatment behaviours towards interventions or illnesses)
• Communication had to include BME patients	• Communication with other healthcare professionals (e.g. nurses, psychologists)
• Adults 18+	• Non-clinical sample
• Quantitative findings	• Review papers, editorials, discussion papers and papers not available in full text
• Any medical setting or speciality	• Patients with non-culture related language difficulties (e.g. patients with dementia, intellectual disabilities)
• Communication had to occur within medical consultations	• Papers before 2003
• Medical students	

2.2 Study Selection

Key terms were searched in the seven electronic databases (ERIC, OVID Medline, Psychinfo, CINAHL , Science Direct, Psyarticles and ProQuest Dissertation and Theses). A total of 979 articles matched the key word criteria, of which 59 articles were not written in English, 142 articles were duplicates and the remaining 308 articles were non-empirical research papers (e.g. books, editorials, commentaries and reports). Titles of the remaining 470 articles were initially screened to determine their general relevance to the review question. This screening led to a further 269 articles being excluded due to non-relevance (e.g. articles did not measure communication, focused on child, substance misuse or HIV population). The remaining articles' titles (n=201) appeared to focus on communication behaviours of physicians and patients. These 201 articles' abstracts were then reviewed against the inclusion and exclusion criteria and a further 129 articles did not meet the inclusion criteria. Of the 129 articles, 79 articles did not measure differences in physicians'

communication behaviours, patients' race was not explored in 33 articles and the remaining 17 articles involved other health care professionals. In addition to the electronic search, 14 articles that appeared to investigate physicians' communication behaviours in the titles were considered from a hand search of key articles' reference list. Therefore, 14 articles from the hand search and 72 articles from the electronic database search (a total of 86 articles) were considered for a full text review. After a full text review of the articles, 70 articles were excluded because either they did not measure differences in physicians' communication behaviours (n=40), they did not include clinical encounters with patients (n=11), they consisted of non-medical students (n=6) or they measured cultural competency skills (n=13). This led to 16 articles meeting the inclusion criteria and being included in this review. Figure 1 illustrates the review process. All 16 articles' full texts were reviewed twice by the reviewer and were also cross-checked against the inclusion criteria by the reviewer's supervisor. Both the reviewer and the supervisor were in agreement with all 16 article papers.

2.3 Data Extraction

All studies were initially reviewed in full by the primary reviewer and data was extracted using a standard format (design, method, sample, measures, results and summary). Subsequently the main findings were recorded and studies of similar topics areas and findings were grouped together. A preliminary list of themes was constructed, which facilitated the categorisation of the findings presented in the results section.

Articles retrieved from
electronic database
(n=979)

Total studies excluded: N=509
Duplicate (n=142)
Non-English (n=59)
Non-empirical research articles (e.g. books,
editorials, commentaries n=308)

Articles' titles reviewed
(n=470)

Total studies excluded on the basis of non-
relevance N=269.
Focused on perceptions of mental health
(n=74), focused on prescribing (n=88), child
& adolescent, HIV or substance misuse
(n=13), Treatment outcomes (n=26) cultural
competencies (n=53) non-clinical population
(n=15),

Papers' abstract
reviewed for inclusion
(n=201)

Total articles excluded: N=129
Not measuring differences in physicians'
behaviours or did not measure
communication (n=79), other sample
population (n=17), patients' race was not
measured (n=33).

Articles retrieved
from hand search
(n=14)

Papers from database
and hand search
considered for full text
review
(n=86)

Total articles excluded after full text
review: N=70.
Did not measure differences in physician's
communication (n=40) non-medical
encounters (n=11), non-medical students
(n=6) measuring cultural competencies
(n=13)

Papers included in the
review
(n=16)

Figure 1. Flowchart of the literature process

2.4 Quality Assessment

As there is no gold-standard design for measuring physician-patient communication and the studies included in this review were observational studies, the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting criteria (von Elm et al., 2007; Vandenbroucke et al., 2007; see appendix A) was deemed the most appropriate standardised tool to critically appraise published observational articles (Vandenbroucke et al., 2007). Studies selected based on the inclusion were appraised for methodological vigour and scored against the STROBE checklist (see appendix B). Advice was sought by the reviewer's supervisor when discrepancies arose.

3. Results

3.1 Studies' Characteristics

The main characteristics of the 16 studies included in the review are summarised in Appendix C. Of the 16 studies, 10 studies were sampled amongst community based practices; two consisted of participants from a hospital based practice and a further four studies had a mixed sample. Studies were either from the US (n=12) or were Dutch (n=4), and were all quantitative in nature. In nine of the studies, the primary diagnoses associated with the medical encounters were chronic conditions (e.g. depression, diabetes, cancer, and hypertension); while the remaining studies did not state the type of conditions (i.e. chronic or acute) patients presented with. Also the patient's reasons for the visit with the physicians were infrequently mentioned. Two large scale patient surveys (Boa, Fox, & Escarce, 2007; Jager & Wynia, 2012) and a large scale patient telephone interview (Napoles, Gregorich, Santoyo-Olsson, O'Brien, & Stewart, 2009) contributed to the wide variation in the number of participants and accounted for the larger participant sizes (1,664-5,978). Had these papers been excluded, the range of participants would have reduced to 103-842. The number of physicians ranged from 25 to 286.

All studies aimed to assess the influence of patients' race or ethnicity on communication processes with physicians, by investigating physicians' communicative behaviours. In addition, six US and two Dutch studies explored patients' behaviours. All 16 studies investigated verbal communication. Non-verbal behaviours were not studied in any of the studies selected for the review.

3.2 Patients' Characteristics

All studies under review presented patients' race and ethnicity. In the US studies, BME patients largely comprised of African-Americans, Asian-Americans and Hispanics and Latinos. In the Dutch studies, the major ethnic categories were Turkish, Moroccan, Surinamese, Antillean and Cape Verdean. Meeuwesen, Tromp, Schouten and Harmsen (2007) also included Eastern Europeans in their non-western ethnic minority category; which consisted of 16% of their total BME sample.

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Overall, 12 studies' samples were predominantly non-BME, with patients from an African-American background representing the largest category. Age and gender were more frequently reported than education and income level for patients. The age of the patients ranged from 18-92 years and the percentage of female patients was higher. Two studies addressed female patients only (Yanez, Stanton, & Maly, 2012; Siminoff, Graham, & Gordon, 2006). One of the least frequently reported patient variables was patient income. Amongst the six studies that did report annual income, it was not clear if the income level belonged to the household or to the individual for the following three studies: Boa et al. (2007), Vaccaro & Huffman (2012) and Yanez et al. (2012). Similarly, the length of relationship with physicians' and patients' health was also reported infrequently.

3.4 Physicians' Characteristics

The number of non-BME physicians was higher in 12 of the 13 studies that recorded physicians' ethnicity, than BME physicians. Also males were more frequently sampled. Demographic characteristics of physicians were infrequently reported; with age and length of experience almost never mentioned. In the Dutch studies, all physicians were general practitioners; however, the US studies recruited physicians from primary care and a variety of specialties.

3.5 Quality Assessment

The STROBE quality assessment tool showed that 14 of the 16 studies included in the review were considered to be of sufficient quality and well reported. This was indicated by these 14 studies fulfilling over 60% of the STROBE's checklist criteria (see appendix B). Only one study fulfilled just under 50% of the checklist's criteria, by achieving a score of 48%. However, to ensure that maximal data was considered for the review, no studies were excluded from the review based on their quality assessment. Additionally, the quality assessment process highlighted a number of methodological considerations, which are reported below.

3.6 Studies' Design

Fourteen studies used a cross-sectional design and convenience sampling was the most frequent method to recruit participants; which in turn may influence selection bias. Although two studies reported using a cohort design, physician-patient communication was captured at a single time point and patient outcomes were measured at follow up. There were considerable variations between studies with regards to which socio-demographic variables studies controlled for. Where confounders were discussed, they were accounted for in the study design and statistical analysis. Six studies failed to account for confounders.

3.7 Measures

The categorisation of communication behaviours varied greatly across all studies (see appendix C). Some studies categorised communication according to affective (socio-emotional) communication behaviours (which include elements of rapport and interpersonal relationships) and instrumental, task-focused behaviours (these include technically based skills used to exchange information related to the patients' concerns). Other studies have looked at whether a discussion around a particular health topic took place, the style of the consultation or patients' feedback on physicians' communication.

Communication was measured either indirectly through patient and physician surveys or directly through tape recordings. Of the ten tape recording studies, four were based on videotapes and six were audiotapes. Seven of the studies (see appendix C), reported using a valid and reliable communication tool (The Roter's Interactional Analysis System [RIAS], Roter, 1993) to assess verbal behaviours. The RIAS (Roter, 1993) distinguishes between affective (socio-emotional) and instrumental (task-focused) behaviours. Additionally, Schouten, Meeuwesen, & Harmsen, (2009) used Roberts & Sarangi's (2002) coding framework, whereas the remaining two studies (Sleath, Rubin, Huston, 2003; Meeuwesen et al., 2007) applied their own self-developed analysis system to code verbal behaviours.

Seven studies reported inter-rater reliability coefficients which ranged from 0.40-0.88. Two studies reported over 84% for their inter-rater reliability and one study did not record coders' inter-rater

reliability. Additionally, one study reported that the coders were blinded to the research question and ethnicities of the participants; but coders' information was missing in the other nine studies.

Of the studies that used questionnaire measures, they were all self-developed and the reliability and validity were not reported for any of the measures. The length of the questionnaires and the administration of the measures varied. For example, Boa et al.'s (2007) measure only consisted of one item. Also some measures were given to patients, others to physicians, some were conducted over the telephone while others were done face-to-face.

3.8 Physicians' Communicative Behaviour

The literature base appeared to categorise physicians' communication behaviours as being either affective or instrumental in nature. The majority of the studies with the exception of Schouten, Meeuwesen, Tromp, and Harmsen (2007) found a significant difference ($p \leq .05$) in the way physicians communicated with BME patients, in comparison to non-BME patients. Although Schouten et al. (2007) reported that the frequency of GPs' instrumental and affective behaviours were lower in consultations with BME patients, their differences did not reach significant levels.

Overall, studies reported that BME patients had frequently received considerably more inadequate quality of communication than non-BME patients, in terms of affective behaviours as opposed to instrumental behaviours, although differences were also found for instrumental behaviours.

3.8.1 Physicians' Affective Behaviours

Affective communication refers to the qualitative aspects of patient–physician communication (Johnson et al., 2004; Levinson et al., 2008) and three dimensions of affective communication were commonly measured by the studies under review. This included socio-emotional exchange, rapport building and joint decision making.

Socio-Emotional Exchange: Socio-emotional exchange was the most studied aspect of physicians' affective communication behaviours. Dutch studies (with the exception of Schouten et al., [2007]) reported that Dutch physicians showed significantly less socio-emotional exchange when communicating with BME patients. For instance, GPs were found to be less empathic and showed less attentive listening and partnership building behaviours (Meeuwesen, Harmne, Bersen, & Bruijnzeels, 2006; Schouten et al., 2009). These findings were also supported by studies carried out in the US (n=11), which found that non-BME patients had received more emotional expressive utterances (Siminoff et al., 2006), and more emotional support (Yanez et al., 2012) by their physicians in comparison to BME patients. Also, physicians were rated as having lower positive affect towards BME patients (Johnson, Roter, Powe, & Cooper, 2004; Ghods et al., 2008). Ghods et al. (2008) also found that physicians were less likely to identify emotional distress in BME patients in comparison to non-BME patients.

However, two studies did not find any difference across race (Cene, Roter, Carson, Miller & Cooper 2009; Copper et al.2003, and one study (Napoles et al., 2009) reported reverse findings in that African-American patients reported that their physicians exchanged more socio-emotional utterances. However, this trend was not found for other BME patients, just for African-Americans.

Rapport Building Exchange: Physicians' rapport building exchanges were also found to be less with BME patients in both the Dutch and US studies (Ghods et al.,2008; Cene et al., 2009; Meeuwesen et al., 2006), even when no differences were found between non-BME patients and BME patients' relationship building behaviours towards their physicians (Siminoff et al., 2006). However, Ghods et al. (2008) found that although differences in rapport building remained lower for BME patients, it was no longer significant after adjusting for physicians' race and years in practice.

Joint Decision Making: Joint decision making was given the least attention in the literature, and was often used as a proxy for levels of patient-centeredness and participatory interaction. Studies often indirectly inferred the degree to which visits were participatory by measuring the number of

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physicians' utterances in comparison to the number of patients' utterances. Four studies directly measured joint decision making and found consistent results, in that physicians were less likely to engage in joint decision making with BME patients in comparison to non-BME patients (Schouten et al., 2009; Naploes et al., 2009; Cene et al., 2009; Yanez et al., 2012) and BME patients had less participatory visits than non-BME patients.

3.8.2 Physicians' Instrumental Behaviours

Instrumental communication refers to the mutual exchange of information between the physician and patient, in which the patient's symptoms and concerns are described, and these concerns and diagnosis are explained by the physician (Ong et al., 1995). Instrumental behaviours were not as commonly focused on in the literature in comparison to affective behaviours. With regards to assessing instrumental behaviours, Dutch studies (Meeuwesen et al., 2006 &Schouten et al., 2007) found no significant differences with physicians' instrumental behaviours across BME and non-BME patients. However, this was contrary to US studies where differences in three dimensions of instrumental behaviours were frequently reported in the literature (psycho-social utterances, information giving and consultation style) and there appeared to be mixed results within and between these dimensions.

Psycho-Social Utterances: BME patients were consistently more at risk of having biomedical narrowly focused interactions, as BME patients received less psycho-social exchange conversations from their physicians (Cene et al., 2009; Siminoff et al., 2006). This difference was also found in Aseltine and Katz's (2009) survey based study in which patients' race had a slight influence on primary care physicians' discussions about health and health behaviours (with physicians' responses hovering around the 'little influence' marker). Unfortunately, this study did not explore which race or ethnicities were more likely to influence physician's discussions. Conversely, Ghods et al. (2008) did not find any differences in the number of psycho-social and biomedical exchanges between BME and non-BME patients.

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Information Giving: Studies in the US indicated that African-American patients received better instrumental communication in the form of information giving from their physicians, in comparison to non-BME and the other BME groups. African-Americans were more likely to receive instructions (Jager & Wynia, 2012), physical health discussions (Boa et al., 2007), explanations of results (Naploes et al., 2009), and nutritional and health education (Vaccaro & Huffman, 2012). However, these findings were not found for other BME categories (with the exception of Vaccaro & Huffman, 2012), as Hispanic and Asian patients received the least amount of information giving utterances from their physicians (Naploes et al., 2009; Sleath et al., 2003; Boa et al., 2007). Boa et al. (2003) reported that 'within physician' differences (i.e. differences stemming from patients treated by the same physician) were associated with the differences in the levels of physicians' information giving.

Consultation Style: Another significant difference in physicians' instrumental behaviours was found for typology of medical encounters. Meeuwesen et al. (2007) reported that consultations with BME patients were significantly more traditional and authoritarian (where physicians predominantly shifted the conversation from clarification of symptoms towards diagnosis, with little response from the patient) and shorter (Meeuwesen et al., 2006) than with Dutch patients. Cene et al. (2009) also reported that BME patients had less visit times.

3.9 Patient Communication Style

While it is clear that differences in physicians' behaviours towards BME and non-BME patients exist, studies have also begun to attempt to explore patients' verbal behaviour as a function of the patients' ethnicity or race. Although differences in communication behaviours between BME and non-BME patients were consistently found in two Dutch and five US studies, there was great variability in which communication behaviours were under investigation. In these studies BME patients were reported to be more passive by showing less affective behaviours or clues about their emotional status to physicians (Ghods et al., 2008; Cene et al., 2009; Johnson et al., 2004), were more frequently reported to speak less in consultations, exchanged less information with their physicians (Sleath et al., 2003; Meeuwesen et al.,2006; Siminoff et al., 2006) showed less disagreement with the physician

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(Meeuwesen et al., 2006; Meeuwesen et al., 2007) even when they had poor levels of mutual understanding (Meeuwesen et al., 2007) and did not give physicians a clue that mutual understanding was not optimal (Meeuwesen et al., 2007).

3.10 Other Potential Factors Influencing Physicians' Behaviour

3.10.1 Patients' Race

Patients' race was the primary variable investigated by all studies to examine its influence on physicians' communication behaviours. In these studies physicians' communication behaviours towards BME and non-BME were compared. The findings consistently reported that patients' race was found to have an influence on physicians' communication; whereby BME patients experienced less affective and instrumental behaviours from their physicians.

The influence of patients' race was also supported by studies examining racial concordance between physician and patients. In these studies physicians were found to communicate more positively in race concordant visits, whereby race-concordant visits were characterised by higher rapport building exchange (Ghods et al., 2008), longer visits, higher coders rating of positive affect and patients were more participatory than race discordant visits (Cooper et al., 2003).

3.10.2 Language Ability

Language was the most common secondary cultural factor that was explored to see whether it played a role in the differences in physician-patient communications amongst BME and non-BME patients. Two Dutch and four US studies had studied the impact of language on physicians' communication behaviours.

 Only one study looked at physicians' affective communications behaviours. Naploes et al. (2009) reported that Spanish speaking Latinos experienced the worst quality of communication on four of their seven communication scales than English speaking patients. These items included: the

physician's lack of clarity, joint decision making, the physician's expressed compassion and respect, and whether patients experienced disrespectful office staff.

However there was a mixed picture with regards to physicians' instrumental communication behaviours. Jager and Wynia (2012) found physicians were more likely to use a teach-back method (a method involving patients being asked to repeat back instructions), with patients who spoke a language other than English. Additionally, physicians were more dominant in visits with patients who perceived their language proficiency to be poor (Meeuwesen et al, 2006), were less likely to use best practices when communicating with patients with language barriers (Aseltine and Katz, 2009), and specialist physicians were found to be less likely to work through an encounter when challenged by language issues in comparison to primary care physicians (Aseltine and Katz, 2009). On the contrary, Boa et al. (2007) and Schouten et al. (2009) reported non-significant effects of language on physician communication.

3.10.3 Other Patients' Variables

Other explanatory patient variables apart from patients' ethnicity and race were studied by 7 studies (US: n= 5; Dutch: n=2). However, these studies did not all use the same variables nor did they all consistently find the same relationships with the same variables. Also there were a lot of inconsistencies between studies with regards to patient variables used to explore relationships and the ones confounded for. Nevertheless, these studies did find that physicians communicated more with patients with less religious status, males, patients with higher perceived language proficiency, patients with higher education and income, and patients with a positive health status (Jager & Wynia 2012; Siminoff et al., 2006; Sleath et al., 2003; Meeuwesen et al., 2007).

Equally, patients who were better educated, younger or had a high or medium income, discussed their emotions more, asked more questions and had higher numbers of patient relationship building utterances (Sleath et al., 2003 & Siminoff et al., 2006). Meeuwesen et al. (2007) also found that differences between physicians' consultations with BME and Dutch patients became more evident

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when mutual understanding was poor. Schouten et al. (2007) found that lower education was associated with less mutual understanding amongst BME patients, whereas younger age was more predictive of mutual understanding within the Dutch patients.

4. Discussion

4.1 General Discussion

The current review aimed to review the literature base to see whether physicians communicated differently with BME patients in comparisons to non-BME patients, and how differences were explained. Overall, the studies in the review were well reported and of sufficient quality (this was indicated by 14 of the 16 studies fulfilling over 60% of the STROBE's checklist criteria). This enabled the current review to conclude from these studies' findings that, differences in how physicians communicate with BME patients in comparison to non-BME patients are evident in the literature base. The STROBE quality assessment tool also highlighted several methodological issues and the impact of these issues on the interpretation of the review's findings is considered below

The literature base divided differences in physicians' communication behaviours into affective and instrumental behaviours and differences were found across both types of communications. Additionally, the review found that physicians were more likely to display information giving behaviours to black patients than any other race category. Primarily all studies described differences in physicians' communication through patients' race and ethnicity. Although there was an increased emergence in the literature base beginning to explore other reasons why differences existed, their relationships were less established and coherent, making it difficult for the current review to summarise their effects.

Overall, it can be inferred from the literature that patients' race or ethnicity affected how physicians communicated with patients. The strongest support was found with physicians showing less affective behaviours (in terms of less socio-emotional exchange, rapport building utterances and involving the

patient less in discussions) when communicating with BME patients in 10 of the 11 studies exploring affective behaviours. Again these findings were consistent with Ferguson et al. (2002) and Schouten & Meeuwesen, (2006).

With regards to instrumental behaviours, findings were divided. Dutch studies (Meeuwesen et al., 2006; Schouten et al., 2007) reported no differences in physicians' instrumental behaviours across patients' race. The absence of differences may have been due to both studies having recruited their participants from the same data set. In relation to US studies, although a small number of studies found that non-BME patients received a higher number of instrumental related utterances in relation to psychosocial education (Cene et al., 2009; Siminoff et al., 2006; Aseltine and Katz, 2009), what emerged from the current review was that black patients were more likely to receive more information giving and medical instructions compared to other ethnicities. This difference is in a reverse direction of what is often assumed (Boa et al., 2007; Ashton et al., 2003) and has not been reported by previous reviews. This trend did not seem to extend to other BME groups, as Hispanic and Asian patients received the least instrumental communication from their physicians. Boa et al. (2007) found that the racial differences resulted from within physician differences (differences between patients being treated by the same physician). Therefore in linking with this, one possible explanation for these findings is that the likelihood of patients receiving information may be influenced by physicians' perceptions of who needs it most (Boa et al., 2007) and whether physicians believed they had enough time to discuss the information with the patients (Jager & Wynia, 2012). Therefore, Asian and Hispanic patients may receive less information giving behaviours (in comparison to black and white patients) due to physicians' perceptions of the heightened linguistic and cultural differences with this group, acting as a barrier. Additionally, the type of information given by physicians to black patients was basic in nature (e.g. general health information and instructions). Therefore it would be interesting to see whether such patterns remain if the information was more complex, as findings from physicians' frequency of biomedical and psychosocial information utterances would suggest the contrary (Cene et al., 2009; Siminoff et al., 2006). Nevertheless, such findings may be an indication

that some physicians may be making steps to address disparities, by ensuring that patients they perceived as unlikely to understand health issues are given adequate information and instructions.

In line with research that has reported the influence of affect on interpersonal behaviour (Forgas, 1995, 2002; Bodenhausen & Moreno, 2000); the current findings that physicians displayed less affective communication and more information giving behaviours to BME patients, may reflect that physicians appeared to be less emotionally connected to BME patients. This in turn may have curtailed the physicians' affective communication behaviours and increased their information giving behaviours, as the information giving does not require an emotional connection with patients (Forgas, 1995, 2002).

While differences were found in physicians' affective and instrumental communication behaviours, it is important to note that these differences were not consistent across all studies and at times a mixed picture emerged. Therefore, caution must be taken when inferences are made. The inconsistencies in the review's findings may have been a consequence of the wide selection of study designs and aims; varied definitions and classifications in describing communication behaviours; and a large variability in the variables and methods used to measure types of communication amongst the selected studies. Comparisons between studies were also problematic, given that studies used a variety of terms to define the differences between BME and non-BME participants. For example, the terms ethnicity, culture and race were used interchangeably across the studies and there is a possibility that each term may consist of different constructs that are attributed to the individual (Schnittker & Bhatt, 2008). Additionally, none of the studies explained how patients were categorised into different ethnic groups (for example, in the Dutch studies it was unclear whether the Dutch category included Dutch born BME patients), and did not take into consideration the variations existing between and within ethnic minority groups. While differences were found in physicians' affective and instrumental communication behaviours, it is important to note that these differences were not consistent across all studies and at times a mixed picture emerged. Therefore, caution must be taken when inferences are made. The inconsistencies in the review's findings may have been a consequence of the wide

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Patients' race was the most explored and cited explanation for differences in physicians' communication between BME and non-BME patients and the effects of patients' race was further supported by evidence that also suggested that patients in race concordant visits with their physicians seemed to receive more effective communication from their physicians and had longer consultation visits in comparison to patients in race discordant visits.

However the current review attempted to go beyond previous reviews by exploring the literature base for other possible factors besides patients' race per se that may influence physicians' communication behaviours. In contrast to the previous review there appeared to be a small emergence of literature that attempted to account for other ethnicity related variables to physicians' communication behaviours. These alternative variables included patients' characteristics, patients' language ability and patient communication. While studies found that physicians communication varied across these additional variables there was large variability across the studies in which variables were used and which

covariates were adjusted for, making it difficult to summarise and conclusively interpret their effects on physicians' communication behaviours.

Parallel to Schouten & Meeuwesen (2006), the current review also found that studies less frequently investigated patient communication and studies that did take into account patient factors, found BME patients to have less conversational behaviours linked to health outcomes (Kaplan et al., 1995). For example they asked fewer questions, showed less positive affect, disagreed less with physicians and were less assertive with their opinions. However what was not evident in the literature was how and why patients' communications influenced physicians' communication behaviours as patient differences were frequently reported separately from physician differences.

Overall, the current review found that differences in physicians' communication behaviours were largely a consequence of patients' race. However, there appeared to be a profound lack of knowledge in the literature base pertaining to explaining these differences beyond merely reporting differences across race and culture. For instance, none of the studies included in the current review investigated the processes by which race or other cultural related variables may influence medical communication. This has unfortunately resulted in an atheoretical and purely descriptive research field. In order to find effective solutions to overcome poor communication received by BME patients from physicians, further studies should start to integrate available knowledge and theories in the field of cross cultural studies with those in physician-patient communication. For example, racial bias has been widely explored within intercultural studies, with social psychologists asserting that perceptions and biases about one's race may drive our behaviours towards that individual (Allport, 1954; Dovidio, Kawakami, & Gaertner, 2002). More specifically, implicit and explicit racial biases have been implicated in research showing that some physicians associate more negative attributes (e.g. non-compliant, less intelligent, more likely to abuse substances) to BME patients (van Ryan & Burke, 2000) and such perceptions may in turn influence medical decisions (Krupat, Yeager & Putnam, . 2000). Therefore, the differences in how physicians communicated with BME patients in comparison to non-BME patients found in this review may reflect racial biases or prejudices held by physicians. It

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is surprising that several years later the current review has replicated concerns around a necessity for an intercultural physician-patient based communication theory, which was initially postulated by Schouten & Meeuwesen (2006). In order for a theoretical background to be developed, there is a need for further studies to reach some consensus about a) how to categorise communication, b) what is meant by concepts such as race, culture and ethnicity, c) why and how researchers think these concepts will influence medical communication and d) develop a shared agreement on how to measure the relationships between communication and other variables.

Also, bearing in mind the mutuality of communication, the variability found in physicians' communication behaviours across patients' race may not just reflect the differences across race per se. Patient involvement and the interaction between physicians' and patients' variables must be considered. Given the reciprocity of communication, it could be hypothesised that differences in physicians' communication behaviours may have emerged from physicians adapting their behaviours in line with patients' communication behaviours. Thus, physicians may be merely responding to BME patients' lack of effective communicative behaviours (Siminoff et al., 2006; Schouten et al., 2007). Additionally, BME patients may hold different beliefs, preferences and cultural expectancies about their involvement in treatment decisions to non-BME patients, which may predispose BME patients to engage in less communication behaviours during medical consultations (Yanez et al., 2012). However, if the latter is to be true, this places the onus away from physicians to change and towards a change with the patients.

Lastly, studies took on a 'single factor' approach, by examining the influence of one variable (such as race or patients' language ability) on physician-patient communication. However, the influence of any one variable (e.g. race) may vary depending on the presence of other factors such as the patient's level of education, physician's communication style, organisational pressures, physician's level of experience or patient's preferences (Travaline et al., 2005). While the literature review highlighted that differences in physicians' communications were associated with patients' race, to assume a causal

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pathway would be premature. The collective influences of other physicians, environmental and patients' variables require further exploration.

4.2 Limitations of the Studies Reviewed

Although this review attempted to give an overview of the research findings around differences in physicians' communication amongst BME and non-BME patients, the present review does not claim to present a full picture for the following reasons. The studies included in this review were biased towards western cultures with the majority of the studies being conducted in the US and the remaining in Netherlands. Similarly the diversity of participants was often limited to white American, black American and Hispanic, for the majority of the American studies. Dutch, Turkish, Moroccan, Surinamese, Antillean and Cape Verdian were the frequent ethnicity groups analysed for Dutch studies. Study findings were also skewed towards primary care physicians and community based settings. Also a number of studies were selected due to their geographic variability and patient diversity, thus given higher proportion of ethnic minority patients. Although no studies were based in the UK and 12 of the 16 studies were completed in the US, the relevance of these findings to the UK may not be as limited as previously discussed. Researchers have argued that race/ethnicity matters in the UK, but in terms of how one views themselves as having a British or non-British culture, as opposed to black vs. white dimensions employed by the US (Cohen, 1994). Thus, differences in UK physicians' communication behaviours may be evident across cultural dimensions (i.e. British vs. non-British) as opposed to black vs. white race differences (Schnittker & Bhatt, 2008). Research is therefore needed to see whether differences equally apply to all clinical environments and across a diverse population within several geographic areas. Also patients presenting complaints were often absent from the studies, therefore further research is warranted to see whether behaviours are influenced by type of illness and severity.

While a number of studies attempted to control for a variety of confounding variables (e.g. age, gender, education) in their analyses, this was not consistent across studies. Therefore the extent to

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which these variables confounded the observed findings in differences in physician-patient communication between BME and non-BME patients is unclear. Further researchers should consider using consistent approaches to determine the potential impact of these confounders. Additionally, a number of unmeasured variables may have acted as confounders in the physician-patient relationship. These may have included physicians' work load and cultural competencies, where the physicians trained, and physicians' and patients' attitudes about race.

Many studies used well established measures of communication behaviours. However, four studies (Boa et al., 2007; Aseltine & Katz, 2009; Jager & Wynia, 2012, & Vaccaro & Huffan, 2012) used their own measures, these self-developed measures may have lacked validity and reliability when measuring communication behaviours. Additionally, questionnaire items may have lacked specificity (e.g. Boa et al. [2007] questionnaire consisted of a single item measure). There was also a great variability in the measures used and the outcomes measured, which made it difficult to compare results across studies. Therefore, the use of consistent sets of validated measures is warranted to facilitate between studies comparison and allow for future researchers to build upon previous findings in order to enhance understanding (Henry et al., 2012).

4.3 Review Limitations

Limitations of the current review also need to be addressed. Firstly, it is important to note that these findings derived from 16 studies meeting the review's inclusion criteria. Also the findings of the study may have been subjected to publication bias as unpublished papers were not included in this paper due to accessibility and time constraints.

A further limitation to the interpretation of the review finding is that associations found within the studies cannot be considered causal, since studies were cross-sectional and data was collected at a single point in time. Similarly, there were large amounts of observational studies included in this review, which may have meant that patients were not assigned randomly to their physicians and may have chosen their physician based on particular communication styles.

Since communication is both verbal and non-verbal, a further limitation is that this review was limited to verbal communication as none of the studies explored non-verbal communication. Therefore, given the importance of non-verbal communication in conveying emotional and relational information, the current review findings may have been unable to capture the full impact of communication during medical consultations (Henry et al., 2012). This review was also unable to make inferences about the communication process between patients and other health care professionals (e.g. psychologists, nurses, speech and language therapists, occupational therapists) as this was beyond the scope of the review.

4.4 Conclusion

The review found that differences in how physicians communicated with BME and non-BME patients continue to exist within the literature, with BME patients on the whole receiving poorer communication than their non-BME counterparts. These findings have great clinical implications given the established evidence that has associated good physician-patient communication with improved patient health outcomes (Stewart, 1995). It therefore can be inferred from the review that barriers in physician-patient communication will place BME patients at increased risk of receiving inferior care. Therefore, there is a need at an organisational level to continue to provide an ethnically diverse healthcare workforce and find ways of maintaining such diversity, given that patients in race concordant visits with their physician receive more effective physician communication. Also the current review continues to support previous literature, to reinforce the need for physicians to become culturally competent in interacting with BME patients. However, it is not sufficient for physicians to merely increase their understanding of differences and issues concerned with BME groups that may exist, but physicians need to foster and adapt their practical communication styles and skills in line with varying patients' cultures (Ferguson et al., 2002). Therefore, if it is to be assumed that BME patients are less talkative and interactive in encounters, it may be imperative that physicians spend more time building rapport, involving family members, developing a shared explanatory model of the health concern, or involving interpreters when language barriers exits. Similarly, the review

highlighted a need for more communication skills training that does not just emphasise the technical aspects of communicating medical information, but also focuses on affective and emotional dimensions of communication behaviours.

Patients' race was the most cited reason for differences arising in physicians' communication and there appeared to be an emergence of studies exploring the relationship of communication behaviour with other culture-related predictor variables. However, there still remains a gap in the literature with regards to the literature base being able to sufficiently explain other ethnic and culture related variables that may exert their effects on physician communication through patients' race. Such lack of established findings may reflect the complexity of communication and the assumptions the measures make about communication functions and structures (Ashton et al., 2003).

Additionally, the predictor variables emerging in the literature have largely focused on patients' factors with little attention given to physicians' factors. How other factors like, provider, environmental and situational variables influence physician communication can not be stated based on this review. Therefore, what is still unclear from the literature is whether underlying processes or mechanisms such as affect, biases, and attitudes are likely to influence the differences observed in physician communication with BME and non-BME patients. These are important implications for future theoretical and empirical research in this field.

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Chapter 2: Empirical Paper

Investigating third year medical students' racial and mental health

attitudes

This empirical paper will be submitted to Patient Education and Counselling (see Appendix D for author guidelines)

Abstract

Objective: To investigate (a) medical students' racial and mental health attitudes towards hypothetical Black and Minority Ethnic (BME) mental health patients, (b) understand how students conceptualise mental illness, and (c) examine how students' conceptualisations and mental health attitudes relate to students' communication with simulated patients.

Methods: Third year medical students' racial attitudes, mental health attitudes (social distance and perceived stigma in others), previous contact with mental illness and conceptualisations about mental illness, were examined towards BME and non-BME psychiatric vignettes, before and after an introductory psychiatry module. Students' mental health attitudes and conceptualisations were also examined in relation to students' communication skills.

Results: Students' racial and mental health attitudes did not vary across the race of the vignettes. Nor were their mental health attitudes and conceptualisations related to students' communication with simulated patients. Students' models of conceptualisations about mental illness were found to incorporate bio-psycho-social elements. However BME students, students who endorsed psycho-social conceptualisations and had less previous contact with mental illness desired more social distance.

Conclusion: Students' ethnicity, familiarity with mental illness and psycho-social conceptualisations remain salient factors related to social distance. Also the study provides stimulus for reconsidering promulgating psycho-social conceptualisations to reduce social distance.

Practice implications: Medical training should seek to move away from programmes that focus solely on Eurocentric views of mental illness. Programmes that continue to implement approaches that recognise and address cultural biases held by BME students, increase students' familiarity with mental illness that support bio-psycho-social conceptualisations and provide positive and meaningful contact with mental health patients are also warranted from the medical training.

Keywords: Racial attitudes, Physician-patient communication, Mental health, Medical students, Ethnic Minority.

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1. Introduction

1.1 Racial disparities

Racial inequality in the provision, management and treatment outcomes of mental health services for Black and Ethnic Minority (BME) patients has been widely recognised [1-3]. Such disparities have been linked to physicians' poor communication behaviours, whereby physicians were found to express less empathy and positive affect, were more verbally dominant and spent less time with BME patients [4-6]. In turn, these communication behaviours have been thought to be influenced by physicians' attitudes towards patients [7,8]. Here attitudes are defined as a positive or negative implicit (outside of conscious awareness and automatic) or explicit (readily apparent, intentional and directly expressed) evaluation of an object [9].

1.2 Physicians' attitudes

Racial attitudes: Physicians occupy essential positions in the treatment and rehabilitation of patients, and are generally expected to view patients objectively [8]. Nevertheless, physicians' perceptions of patients have varied by patients' race [7,8]. Racial attitudes (typically operationalized in the literature as racial bias) have been implicated in research, showing that some physicians explicitly and implicitly associate more negative attributes (for example, noncompliant, less intelligent, more likely to abuse substances) to BME patients than non-BME patients [8, 10-15].

Stigmatising mental health attitudes: Physicians' negative attitudes are not just limited to patients' race but have also been found towards people with mental illness, in the form of stigma [16-18]. People with mental illness are often viewed as dangerous, unpredictable and untreatable [19-21]. These unfavourable views act as a barrier for physicians to provide appropriate care to patients [22], and individuals are less likely to seek treatment because of the accompanying stigma [23,24]. Research has indicated that stigma is a multifaceted concept, with negative attitudes towards mental illness being consistently associated with less familiarity with mental illness (knowledge of and

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experience with mental illness) and increased social distance (the willingness to make contact with people with mental illness) [25,26]. Also both familiarity and social distance have been used as indicators for discriminatory behaviours [27]. Other factors found to influence negative attitudes towards mental illness include; the nature and severity of the mental illness; causal attributions and; labelling [21,28-30]. Attitudes also vary across cultural and ethnic groups [31], whereby India, China , Africa and Islamic countries have reported higher levels of stigma in comparison to Western cultures [32,33].

Additionally, beliefs about mental illness and causal attributions of mental illness have influenced stigma [29, 34,35]. It has been assumed by attribution theory that people would react less negatively to mental illness if they attributed biological causes as an explanation for mental illness as opposed to one's personal deficiencies [34]. Conversely, other studies found the opposite [30,36,37]. However, while many have speculated that physicians conceptualise mental illness primarily as a biological phenomenon [38-40], physicians' causal beliefs remain largely untested in the literature.

1.3   Relationship between attitudes and behaviour

Attitudes of physicians are important because they are a determinant of the quality of care given to patients [24]. Physicians' attitudes have been found to affect their diagnosis, treatment recommendations and interactions with patients [7,10,11,15]. While explicit and implicit attitudes have been found to predict actual behaviour [11,41,42], a well established line of research has suggested a double dissociation relationship between attitudes and behaviours, where implicit attitudes are thought to predict spontaneous uncontrollable behaviours and explicit attitudes predict deliberate planned behaviours [9, 41-43].

In summary, BME patients experience higher rates of mental illness [44] and these mental health problems are exacerbated by racial and mental health biases from physicians [45]. Attitudes towards people with mental illness are important constructs to measure in medical students for several reasons.

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Firstly, as physicians' attitudes and communication appear to be interconnected and related to patient outcomes [7,8,10,11,15,24], it is important to understand factors that influence this. Secondly, given the increased ethnic diversity in the United Kingdom (UK) [46], students regardless of their future speciality will inevitably go on to treat BME patients with mental illness. Thirdly, students are the future physicians who will be guiding services and other professionals, therefore stigma and race equality interventions targeted towards students may be more cost effective than interventions directed at qualified staff [47].

Despite known disparities in mental healthcare, UK medical students 'stigma attitudes towards BME mental health patients, students' implicit and explicit racial, and students' causal beliefs about mental illness remain largely unknown. While stigma is multifaceted, this study will focus on two common facets of stigma which include social distance and stigma perceived in others. Using case vignettes and simulators as a proxy to patients, this study is interested in whether third year medical students' racial and mental health attitudes (in the form of stigma) vary by patients' race and whether students' stigmatising attitudes are related to how they communicate with mental health patients. Additionally, the study will explore beliefs about mental illness held by medical students.

Based upon prior research it is hypothesised that: (a) students will show a strong implicit preference for non-BME race, (b) medical students with limited familiarity with mental illness will hold more negative attitudes towards mental illness and the BME vignette, and (c) students' ethnicity and the race of the vignette will impact upon reported levels of social distance. Also, the study sought to explore (a) whether there is a relationship between racial and mental health attitudes held by students, (b) how students conceptualise mental illness and what is the relationship between these conceptualisations and students' attitudes, (c) if students attitudes towards mental illness and mental illness conceptualisations change following the psychiatry teaching, and (d) what is the relationship between students attitudes towards mental illness, mental illness conceptualisations and students' clinical and communication scores?

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2 Methods

2.1 Design

A cross-sectional repeated measures longitudinal design was employed with third year medical students across a six week psychiatry module. The module consisted of lectures and a five day ward placement, with the learning objectives of developing clinical and communication skills with patients with mental illness. Students' clinical and communication competencies were subsequently assessed at their summative Objective Structured Clinical Examination (OSCE), which included a psychiatry examination station, with a simulated patient presenting with depression. Measures were collected at the start of the first and final lecture, and during the OSCE.

2.2 Ethics

Approval was granted by the University of Liverpool, Institute of Psychology, Health and Society Research Ethics Committee (REC).

2.3 Measures

2.3.1 Independent variables

Vignette (Appendix E): Case vignettes of either a black or white male depicted patient's race. The vignette was a referral letter of a man with probable schizophrenia to a psychiatrist. Both vignettes differed only on the patient's race and name, and were adapted from Kinderman et al. [48].

*Demographics (*Appendix F): Students' ethnicity, age and gender were collected.

2.3.2 Dependent variables

Previous Contact Scale (Appendix G): Students rated whether they had either no or limited contact, professional or personal past experience of mental illness.

Race Implicit Association Test (IAT): IAT is a timed-cognitive test measuring implicit social cognitions [49]. The race IAT has achieved good reliability and validity [50,51]; and required students to pair a target concept (race) with attributes by categorising black faces with positive words with one key and white faces and negative words with the other key, and vice-versa (Appendix H). Scores ranged from -2 to +2, with positive scores indicating a bias against associating positive words with black faces [52].

Explicit Racial Bias (Appendix I): The measure was designed by the author to parallel IAT's target concepts. Students chose one of seven statements ranging from strongly prefer light-skin people (=1) to strongly prefer dark-skin people (=7), to indicate their level of preference.

'*Stigma perceived in others Scale' or the Devaluation and Discrimination Questionnaire* [53] (Appendix J):The twelve item questionnaire measures students' perceived likelihood that people with mental illness would be devalued and discriminated against by the public (see Appendix J), with a six-point Likert scale ranging from strongly agree (=1) to strongly disagree (=6). A high total score indicated a belief that people with mental illness would be devalued and discriminated against. This scale has been widely used and good reliability and internal consistency (alpha=.84) has been reported [53].

Social Distance Scale [19] (Appendix K): Social distance was used as a proxy to measure students' personal stigma towards people with mental illness. Students rated their willingness to engage in social activities with people with mental illness on a 0-to-3 point scale (0= definitely willing and 3= definitely unwilling). A higher score indicated greater social distance desired. Average scores below 14 suggested students were 'probably willing' to interact socially with people with mental illness. Good internal consistency (alpha=.75) has been reported [28].

Models of Mental Illness Questionnaire [48] (Appendix L): The questionnaire was designed to identify models of mental illness held by students and premised on four of the six dimensional

models proposed by Colombo et al. [38]. Appendix M displays a breakdown of the models. Each statement was framed along the assumptions of medical or genetic, social or contextual, trauma or experience, and psychological models. Students rated their agreement (-3= totally disagree to +3= totally disagree) with 45 statements regarding the diagnosis/definition, causes, interactions, treatment and recovery, the rights and duties of people with mental illness, and the rights and duties of society towards people with mental illness.

OSCE: OSCEs are widely used to assess medical students' clinical and communication skills [54]. The OCSE has been reported to have a generalisability coefficient of .59, construct validity coefficient of r=.60 and inter-rater consistency of ICC=.94 [55] and [56]. The OSCE consisted of many clinical stations, of which one involved a psychiatric station. At this station a standardised scenario of a patient with depression (Appendix N) was presented to students by a simulated patient (played by an actor). Students' ability to respond to patients with mental illness was assessed against an 18 item marking criteria (Appendix O).

2.4 Data collection

Appendix P illustrates the data collection process.

First-psychiatry teaching (Time point one): Students were informed of the study's rationale (Appendix Q) and written consent was sought (Appendix R). Students were randomly given either vignette A or vignette B to read. They were then asked to complete the attached questionnaire pack (consisting of the following six measures: Demographic information, Previous contact, Explicit racial bias measure, Devaluation and discrimination questionnaire, Social distance scale and the Models of mental illness questionnaire) based on the vignette they were given. A web-link to the on-line IAT was sent via email following the teaching.

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Final-psychiatry teaching (Time point two): Six weeks later, at the start of their final lecture, students were again randomly given either vignette A or B. They were asked to read the vignette and complete the questionnaire pack (with the six measures) based on the vignette they were given. A web-link to the IAT was sent by email to all students in an attempt to remind those who had not completed it. IAT scores for each student were only collected at one time point (either following the first teaching or after the final lecture) as IAT scores have been found to remain stable when tested over time [57].

OSCE (Time point three): OSCE data was collected at the end of the academic year, during the examination period. Students consented for their OSCE data to be used on the day of their examination.

Non-completion of consent forms or the questionnaire pack was viewed as the student non-consenting for that section of the study.

2.5   Participants

All third year medical students undertaking their psychiatry module were invited to take part. Participants' completion rate is displayed in Figure 2.

Recruitment

Students invited to take part
N=335

Baseline (T1)

IAT collected at either T1 or T2
n=149
Students who did not complete IAT
n=186
(55.5%)

Students completed measures at T1
n=201

Students who did not fill out questionnaires
n=134 (40%)

Follow up (T2)

Students completed measures at T2
n=141

Students who did not fill out questionnaires
n=194 (58%)

Measures completed
T1 & T2: n=114
T2 only: n=27

OSCE (T3)

Students consented for OSCE data to be used
n=332

Students who did not consent
n=3 (0.9%)

Analysis

Data available for analysis

T1	T2
*Previous contact: n=199 (99%)	* Previous contact: n=139 (98.5)
*Explicit attitudes: n=189 (94%)	*Explicit Attitudes: n=136 (96%)
*Stigma: n=200 (99.5%)	*Stigma: n=140 (99%)
*Social distance: n=198 (98.5%)	*Social distance: n=137 (97%)
*Models: n=196 (97.5%)	*Models: n= 134 (95%)

*IAT: n=149 (100%)
*OSCE: n=33 (100%)

Figure 2: Participant Flowchart

2.6   Statistics

Ethnicity of students and the vignettes were coded as either BME or non-BME. Demographic information was explored using chi square and independent *t*-tests. Independent and paired-sample *t*-tests, chi square, Pearson's correlations, factor analysis, two-way between group and one-way between groups ANOVAs were used to test hypotheses and research questions. Means, standard

deviations and effect size based on Cohen's [58] and Cramer's [59] criterion were reported for the results. Significance was calculated at p<0.05. Analyses were conducted using SPSS 20.0.0.1.

Principal Component Analysis (PCA) using orthogonal Varimax rotations were conducted on the models of mental illness questionnaire at time one, by undertaking an explanatory approach [60]. The factorability of items was supported by the Kaiser-Meyer-Olkin (KMO) exceeding 0.6 , Bartlett's test of Sphericity reaching significant levels (p=.000), the correlation matrix determinant value being greater than zero, the diagonals of the anti-image correlation matrix all being over .7, and excluding items with less than .4 primary loading.

3   Results

3.1   Demographics

Table 2 contains detail of descriptive statistics for students at time one and two.

Overall students equally associated positive words to a black or white race (mean IAT=0.391, SD=0.387) and had a mean score of 'probably willing' to interact socially with people with mental illness at time one (Mean=7.80, SD3.70) and two (Mean=7.70, SD=3.79).

Table 2
Students' characteristics

Characteristics	Time One N=201	Time two N=141
Ethnicity- BME students (n, %)	81 (40%)	50 (35%)
Gender- Male (n, %)	91(45%)	60(43%)
Age in years (M, SD)	21(2.8)	21(2.3)

BME students reported higher levels of social distance towards mental illness compared to non-BME students at time one (t[196]= 5.12, p=.00) and at time two (t[135]=5.16, p=.00). Mean scores and standard deviations are displayed in Table 3. Higher proportions of non-BME students had previous contact with mental illness at time one (χ^2[2,199]=14.61, p=.00, Cramer's V=0.271 [medium effect]). There were no differences in gender and age across the measures.

Table 3
 Social distance scores across students' ethnicity.

Students' ethnicity	Mean social distance (SD)	
	Time one n=198	Time two n=137
BME	9.35 (3.52)	9.79 (3.59)
Non-BME	6.76 (3.47)	6.57 (3.43)

3.2 Racial attitudes and attitudes towards mental illness

No significant relationships were found between IAT, explicit attitudes, social distance and perceived stigma in others at either time one or time two (Appendix S).

3.3 Previous contact with mental illness and social distance, amongst BME vignettes

Means are displayed in Table 4 and 5 for comparisons between previous contact and the ethnicity of the vignette on social distance.

At time one a borderline significance was found for the race of the vignette on social distance ($F[2,191]=3.51$, $p=.06$). No interaction between previous contact and race of vignette was found ($F[2,191]$, $p=.73$). However, previous contact influenced social distance ($F[2,191]=6.76$, $p=.00$; with a medium effect size, partial eta squared=0.07). Post-hoc comparisons using the Tukey HSD test indicated that students with no/limited direct contact reported significantly higher social distance (M=8.80, SD= 3.79) compared to students with personal experience (M= 6.76, SD= 3.49).

At time two, social distance scores were not significantly different across levels of contact ($F[2,128]=.434$, $p=.65$) or race of the vignette ($F[1,128]=0.04$, $p=.84$).

Table 4
Social distance scores across levels of previous contact and race of the vignette at Time one.

Race of the vignette	No/ limited Contact N=86	Professional Experience N=41	Personal Experience N=70
BME	9.10 (4.17)	8.22 (3.98)	7.13 (3.71)
Non-BME	8.53 (3.43)	6.56 (2.43)	6.31 (3.19)
Total	8.80 (3.79)	7.49 (3.45)	6.76 (3.49)

Table 5
Social distance scores across levels of previous contact and race of the vignette at Time two.

Race of the vignette	No/ limited Contact N=17	Professional Experience N=79	Personal Experience N=38
BME	7.22(4.33)	7.97(3.70)	7.16(3.55)
Non-BME	7.75(3.62)	7.84(3.91)	7.26(4.19)
Total	7.47(3.89)	7.90(3.79)	7.21(3.83)

3.4 Students' ethnicity and race of the vignette on social distance

At time one, students' ethnicity influenced social distance scores. BME students reported higher levels of social distance compared to non-BME students (F[1, 194]=27.50, p=.00; partial eta squared=.124). However there was no difference in students' desire for social distance for the BME and non-BME vignette (F[1,194]=2.68, p=.10).

At time two, BME students reported higher levels of social distance compared to non-BME students (F[1,132]=26.8, p=.00; partial et squared= .169). Again, students reported equivalent amounts of social distance towards both the BME and non-BME vignette (F[1,132]=.153, p=.70).

The means and standard deviations are presented in Table 6 & 7.

Table 6
Social distance score across students' ethnicity and race of the vignette at time one.

Race of the Vignette	Mean social distance (SD)		
	BME N=102	Non-BME N=96	Total N=198
BME	9.58 (4.12)	7.33 (3.74)	8.17 (4.02)
Non-BME	9.15 (2.89)	6.11 (3.02)	7.41 (3.31)
Total	9.35 (3.52)	6.76 (3.46)	7.80 (3.71)

Table 7

Social distance score across students' ethnicity and race of the vignette at time two.

Race of the vignette	Mean social distance (SD)		
	BME N=63	Non-BME N=73	Total N=136
BME	10.00 (3.55)	6.05 (2.91)	7.62 (3.71)
Non-BME	9.57 (3.70)	6.98 (3.78)	7.79 (3.92)
Total	9.79 (3.59)	6.58 (3.45)	7.71 (3.81)

3.5   Models of conceptualisations about mental illness held by students

Factor analysis was conducted to establish which factors formed the best fit to the models endorsed by the students.   The models of mental illness questionnaire comprised of items relating to the pathology of mental illness (first 29 items) and the rights and duties of society towards people with mental illness (last 16 items). The questionnaire was divided into two parts corresponding to these two constructs and a factor analysis was conducted separately for the former and latter questionnaire items.

A two factor solution with 16 items explaining 48.3% variance was deemed a stable factor structure for the first 29 items of the questionnaire. The two factors corresponded to concepts of 'mental illness is caused by psycho-social events', and 'mental illness is caused by biological factors'; with a Cronbach's alpha of .85 and .83 respectively. The two factor solution is shown in Table 8.

Scores on factor one (psycho-social events) were positively related to factor two scores (biological factors) at both time one (r=.266, n=195, p=.00) and two (r=.461, n=134, p=.00).

Table 8

Factor loadings for 16 items of the first 29 items of the models of mental illness questionnaire

	Questionnaire item	Factor one loading	Factor two loading
3	'Mental illness is a response to traumatic or distressing early experiences'	.754	
8	The problems and behaviours of a person with mental illness indicate the way in which a person thinks about themselves and the world	.745	
4	Mental illness is a product of the way in which a person thinks about themselves and the world	.738	
13	Mental illness is the result of the way in which a person thinks about themselves and the world	.698	
7	The problems and behaviours of a person with mental illness indicate a person's traumatic or distressing early experiences	.672	
12	Mental illness is the result of traumatic or distressing early experiences	.671	
2	Mental illness is a response to a stressful life event	.656	
27	Recovery from mental illness depends on the person's resilience in the face of traumatic or distressing experiences	.643	
28	Recovery from mental illness depends on a person's ability to challenge and change the way in which they think about themselves and the world	.455	
17	The way in which a person thinks about themselves and the world is affected by genetic abnormalities		.790
18	The way in which a person thinks about themselves and the world is affected by physical or chemical changes in the brain		.754
14	Physical or chemical changes in the brain are affected by genetic abnormalities		.743
10	Mental illness is the result of physical or chemical changes in the brain		.704
9	Mental illness is the result of genetic abnormalities		.659
16	Physical and chemical changes in the brain are affected by traumatic or distressing early experiences		.651
15	Physical and chemical changes in the brain are affected by a person's economic, social and cultural status		.568

A subsequent factor analysis for the remaining 16 items yielded a two factor solution for 6 items, explaining 71.1% of the variance. The two factors corresponded to concepts of 'society's duties towards people with mental illness', and 'the rights' of people with mental illness'. The Cronbach's

alpha was .81 and .84 respectively. The final solution is illustrated in Table 9. Correlations found that students' agreement with factor three (society's duties) was related to agreement with factor four (rights of people) for time one (r=.615, n=193, p=.00) and two (r=.602, n=134, p=.00).

Table 9
Factor loadings for 6 items of the last 16 items of the models of mental illness questionnaire

	Questionnaire Item	Factor three loading	Factor four loading
44	Society has a duty to provide proper psychological therapies for people with mental illness	.820	
45	Society has a duty to understand and respect the views of people with mental illness	.788	
43	Society has a duty to protect people from trauma and abuse	.702	
41	Society has a duty to provide proper medical care for people with mental illness	.647	
32	People with mental illness have a right to protection from abuse and trauma		.886
33	People with mental illness have a right to receive therapy		.867

The four factor scores did not differ across students' gender or age. The relationships between the four factors and IAT, explicit attitudes, social distance, perceived stigma in others, were investigated at time one and two (Appendix T) along with previous contact, students' ethnicity and race of the vignette.

Race of the vignette: Scores for each of the four factors (psycho-social events, biological factors, society's duties and rights' of people) did not differ across vignettes at time one and two.

Students' ethnicity: At time one non-BME students were found to hold higher agreement for society's duties (t[191]=4.98, p=.00, Cohen's *d*=0.72) and rights of people (t[192]=4.32, p=.00, Cohen's *d*=0.62). At time two non-BME students reported higher agreement with biological factors (t[134]=2.48, p=.02, Cohen's *d*=0.42).

Previous contact: Scores for psycho-social events, biological factors, society's duties and rights of people did not differ across levels of previous contact for time one and two.

IAT: No relationship was found between the IAT scores and each of the four factors at time one and two.

Explicit Attitudes: At time one, students with a higher agreement with rights' of people held explicit preferences for light-skin tone people (r= -.199, p=.01, n=185). No relationships were found for psycho-social events, biological factors and society's duties. At time two, students with explicit preference for light-skin tone people held higher agreements with psycho-social events (r= -.318, p=.00, n=130) and biological factors (r= -.246, p=.01, n=131).

Social distance: At time one, while biological factors were not associated with social distance, students with higher agreements with psycho-social events reported greater social distance (r=.186, n=194, p=.01). Conversely, students reported less social distance if they held a higher agreement with society's duties (r= -.298, p=.00, n=191) and rights of people (r = -.323, p=.00, n=192). At time two students who reported less social distance held higher agreements with rights of people (r= -.238, p=.01, n=132). However, reported social distance remained the same regardless of scores for psycho-social events, biological factors and society's duties.

Perceived stigma in others: At time one perceived stigma scores remained the same regardless of scores for psycho-social events, biological factors, society's duties and rights of people. At time two, students with higher beliefs that individuals will be stigmatised also held higher agreements with society's duties (r=.213, p=.01, n=134) and rights of people(r=.246, p=.00, n=134).

3.6   Impact of the teaching on social distance and models of mental illness

Social distance scores did not change following the psychiatry module (t [107]=0.82, p=.42, Cohen's *d*=0.16) . However, students' agreement towards psycho-social factors (t [104]=4.12, p=.00, Cohen's *d*=0.81) and biological factors (t[106]=4.53, p=.00, Cohen's *d*=0.87) increased post-module. Conversely, scores did not change over time for society's duties (t[103]=0.159, p=.87, Cohen's *d*=0.03) and the rights of people (t[103]=0.246, p=.81 Cohen's *d*=0.05).

3.7   Conceptualisations about mental illness, social distance and communication behaviours

OSCE communication and clinical scores were positively correlated with one another (r=.516, p=.00, n=332). Additionally, there were no relationships between OSCE communication scores and the following variables at time one; perceived stigma (r=.054, p=.45, n=193); social distance (r=.013, p=.86, n=191); psycho-social factors (r=.023, p=.76, n=188), biological factors (r=.077, p=.29, n=188); society's duties(r=.071, p=.34, n=188); and rights of people (r=.010, p=.89, n=188). Also the OSCE clinical score was independent of perceived stigma (r=.084, p=.25, n=193); social distance (r=.011, p=.85, n=191); psycho-social factors (r=.024, p=.75, n=188), biological factors (r=.130, p=.76, n=188); society's duties(r=.020, p=.78, n=188); and rights of people (r=.018, p=.80, n=188).

4   Discussion and Conclusion

4.1   General discussion

The aims of the study were to investigate whether UK third year medical students' racial attitudes and stigma (in the form of stigma perceived in others and social distance) varied by the race of the vignettes, and whether students stigmatising attitudes influenced how they communicated with mental health simulated patients. Also, the study sought to explore the types of beliefs (conceptualisations) about mental illness held by medical students and its impact on students' clinical communication during the OSCE's.

Results found that students' implicit and explicit racial attitudes and stigma attitudes were not influenced by race of the vignette. This is promising as the sample's students seem to treat both vignettes equally and associated positive attributes alike on the IAT, regardless of the stimuli's race. Conversely, these findings are inconsistent with research indicating greater racial biases against BME patients [7,8,10]and more desired social distance [18]. Lack of findings for the impact of race may be explained in terms of Allport's contact hypothesis [61], whereby students in this sample may have been familiar with equal status contact between BME and majority groups, (through their multi ethnic learning environment and the diverse ethnicities in the UK), thereby diminishing any racial biases.

Moreover, the students were able to hold multiple attitudes towards hypothetical patients [62], as both implicit and explicit racial attitudes and mental health attitudes were found to be independent of each other. This is inconsistent with the literature that has suggested that BME patients with mental illness experience 'double stigma' [63] due to their ethnicity and mental illness.

Parallel to past studies [48,64], students in this study were overall accepting of patients with mental illness. This was indicated by the low social distance mean score in the sample which was akin to 'probably willing' to engage in activities with individuals with mental illness. Previous contact with people with mental illness and students' ethnicity were the most salient factors to influence mental health attitudes in the form of social distance. Students with no or limited previous contact with people with mental illness reported the most desired social distance; this supported previous studies [25-27]. No differences in desired social distance across the level of previous contact at time two may infer that, by completing the psychiatry module, social distance scores across previous contact converged as a result of students' increased familiarity with mental illness [26]. Similarly, lack of change in social distance and perceived stigma in others, post-module, may reflect that students generally held positive attitudes about mental illness. It would be interesting to see if such findings are replicated with students with more negative pre-module mental health attitudes.

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Interestingly, BME students held less favourable attitudes towards mental illness in comparison to non-BME students. It is possible that these differences may be a by-product of cultural variations in which mental illness is constructed, interpreted and taught within non-British cultures. The fact that BME students reported less familiarity with mental illness in comparison to non-BME students may have also contributed to the observed differences in social distance scores. However, further analysis of these findings was not possible due to the study design being unable to differentiate between overseas and British-born BME students. Nonetheless, differences between BME and non-BME may indicate that cultural beliefs are pervasive amongst BME students and may not be eroded by clinical exposure.

Given that physicians' conceptualisations about mental illness were largely untested and the limited evidence suggesting the dominance of biological explanations held by physicians [38-40] , students' models of mental illness were found to be aligned with Engels's bio-psycho-social model [65], encompassing multi-dimensions, spanning biological and psycho-social elements. However, the diverse conceptualisations held by the students may reflect their limited experience of mental illness to exclusively agree with one specific model.

Given that research in the relationship between causal attributions and social distance is largely under researched and not always consistent [66], research development in this area is paramount. However, this study found that holding biological accounts of mental illness was not associated with desired social distance and supported the limited evidence base that providing biological explanations has no effect on social distance [66]. However, agreements with psychosocial beliefs of mental illness were associated with greater desired social distance. While this appeared to be inconsistent with Read et al. [30,36] one explanation for the findings is that students attributed psycho-social factors to personal deficiencies in individuals with mental illness, for example lack of will power and weak character [37]. This may lead the students to think that these people are uncontrollable, dangerous and unpredictable [19-21], and therefore desire greater social distance [17,18,26,27]. Students' models

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of mental illness also emphasised safeguarding patients' civil rights and students felt a responsibility of society to endorse this. Therefore, findings were not unexpected that students who highly endorsed the rights of people and society's duties, desired less social distance. Although students' conceptualisations were independent of the vignettes' race, students' conceptualisations did not exist within a vacuum and a mixed picture emerged with the study's other variables, which warrants future work.

Lastly, the study's findings were unable to support the literature linking the influence of negative mental health attitudes on clinical communication [7,10,11,15,24]. Therefore, how students communicated with hypothetical mental health patients is unlikely to be solely attributable to students' mental health stigma, but may depend on other factors such as physicians' perceptions of patients' social class and levels of education, students' and patients' communication style and gender [8, 67].

4.1.1   Limitations

Some of the study's limitations will be mentioned, as further limitations are discussed elsewhere. Although students reported a relatively low social distance mean, social distance should not be mistaken for actual interpersonal behaviours, but regarded as a proxy measure to social behaviours [68]. Given the sensitivity of the research topic, students may have wanted to present themselves as being open minded individuals. Therefore, students' social desirability and moral standards may have artificially reduced the social distance ratings reported. Similarly, sampling of students was not random; therefore selection effects may have influenced the results. For instance, students who were interested in this topic or held strong opinions about attitudes towards BME or mental health patients may have been more motivated to take part in the study. This may have led to the current findings having an over representation of these students' opinions. Additionally, given that medical students often come from affluent and privileged backgrounds, the results may have reflected attitudes prevalent to that particular social class. The generalisability of the results may also be limited to the fact that students were from one cohort belonging to one university. Therefore, a larger multi centred

cross ethnic study with other groups of medical students from other medical schools across different years and curricula is desirable in the future.

Race and ethnicity are difficult to categorise and students may have held different constructs from each other [69] that they attributed to the vignettes. Differences found between BME and non-BME students may not only be influenced by cultural variations in the way in which mental illness is constructed and construed. The findings may have also been influenced by cultural variations in the way non-BME and BME students understood and responded to the survey questions. Moreover, the assignment of students to an ethnic category may not correspond to how students view themselves or take into consideration subgroups within the larger ethnic categories.

The vignettes were about hypothetical patients and may have lacked ecological validity. The differences in students' responses across the race of the vignettes may not have been detected, due to the vignettes only differing by the patient's name (the BME vignette had an African origin name whereas the non-BME vignette had a British origin name) and race (black versus white male). These differences may have been too subtle for the students to notice. Students' responses may not have been based on the race of the patient in the vignette. This subsequently may have impacted on the vignette's ability to elicit students' racial attitudes. Similarly, the vignettes were written in a way that did not specifically mention a diagnosis of a mental illness, but left it up to the reader to infer one. Due to the clinical ambiguity of the vignettes, students may have used stereotypes more readily, which in turn may have accounted for the students' reported negative mental health attitudes. As the questionnaires were completed in relation to the vignette, it would be interesting to see whether these findings would be replicated in situations where there is clinical certainty. Lastly, the OSCE's ecological validity may have been confounded by the examination environment, which subsequently may have accounted for the lack of associations found. .

4.2 Conclusion

Students held largely sympathetic views towards BME patients and mental illness. This study was unable to corroborate the evidence-base that racial and mental health attitudes are influenced by patients' race [7,8,10, 24,63,67]. To date, this is the first study that has attempted to investigate UK medical students' biases towards BME mental health patients and whether students' conceptualisations about mental illness and mental illness attitudes influence clinical communication during OSCE's. Therefore further studies are required.

The study's findings were inconsistent with a growing body of evidence, indicating that physicians' attitudes towards mental illness are related to how physicians communicate with patients [20,22,24,66,67]. However, to assume no relationship between mental health attitudes and communication would be premature. Nonetheless, the study found that, firstly, negative attitudes towards mental illness exist largely through BME students and highlighted that understanding cultural constructs of mental illness may be imperative when students come from different cultures [70]; and secondly, that familiarity with mental illness continues to remain a salient factor in abating negative stigma attitudes.

Lastly, students did not face a dichotomous choice between biological and psychosocial conceptualisations of mental illness. The emerging evidence of diverse and complex patterns of models of mental illness held by students gives cautions against accepting research conclusions that oversimplify clinicians' conceptualisations of mental illness [38,71].

4.3 Practice implications

Cultural attitudes towards mental illness are pervasive amongst students and are found to influence social distance. Given the increasingly diverse medical student population in the UK [72]; there is a potential for such stigma to be translated into clinical practice. Therefore, medical schools need to provide opportunities to explore and understand mental health biases that do not solely focus on

Eurocentric views of mental illness, but incorporate cultural variations from the clinicians' perspective and as opposed the patient perspective per se [70].

One of the major claims made in the stigma literature is that personal contact reduces social distance [25-27]. But it is clear that contact is not always positive [66]. Therefore, when addressing stigma towards mental illness, students must be given direct, meaningful and appropriate opportunities to interact with people with mental illness (e.g. visits with ex-patients, contact that has equal power differentials and shadowing of other disciplines), with contact that is adequate in duration and frequency and consists of high levels of intimacy [73]. Furthermore, the medical curriculum can help to mitigate students' discriminatory responses associated with mental health patients, by ensuring that patients facilitate in the delivery of the teaching sessions. Also there is a need for patients to be involved in the problem based learning teaching component (this small group based teaching method allows members of the group to share and refine their knowledge of a problem-based scenario). Both of these opportunities would offer students counter stereotypical information about mental health patients, by students gaining frequent contact with recovered individuals or individuals who disconfirm to the stereotype of mental illness [73].

The study raised concerns that promulgating psycho-social concepts amongst students might not contribute to reducing desired social distance towards people with mental illness. Therefore, students should be provided with an array of models to conceptualise mental illnesses and encouraged to work within a multi-disciplinary model.

Overall, students' degree of stigma was largely influenced by type of previous contact they had with people with mental illness, the ethnicity of the student and how the students conceptualised mental illness. Although such negative attitudes emerged in relation to a hypothetical case vignette, it could be inferred that stigma (in the form of social distance) may become more prominent during encounters with real patients in real clinical settings. Therefore, such students may be more likely later on in their clinical practice to run the risk of offering patients negative care experiences (by not treating patients

with respect, dignity and compassion) due to their negative attitudes held. This has great clinical implications, given that the Francis report [74] and government papers [75,76] have emphasised the importance of positive patient experience in healthcare. For instance, students' negative attitudes may get transmitted into clinical practice through differential diagnosis, treatment and care, in the form of more punitive and invasive treatment plans, longer referral and waiting times, and higher doses of medication [1]. Additionally, as the current study found that implicit and explicit attitudes were not associated with each other, highlights potential concerns that individuals may explicitly report egalitarian attitudes while simultaneously holding contrasting negative implicit attitudes [13,42]. This in turn may lead to unintentional discrimination against patients [42].

Students in the study will go on to populate the medical profession and become clinical leaders of services. Therefore, by challenging negative attitudes about mental illness and promoting the concept of compassionate care [76], will provide future doctors with the skills to take on the responsibility to shape and lead a caring culture, free from stigma, within their teams [75,76].

Lastly, investigating physicians' variables (e.g. attitudes and models of conceptualisations) that may have an impact on how medical students interact with hypothetical patients has great relevance within clinical psychology. Firstly, psychological approaches would suggest there is evidence that the therapeutic alliance between a clinician and a patient is a significant factor in the effectiveness of treatment outcomes [77]. Therefore, behaviours that are associated with collaboration, warmth, empathy and are non-judgemental are crucial for building a positive therapeutic alliance and helping patients manage their mental health. Given that clinical psychologists are often situated within multidisciplinary teams and work alongside the medical profession, clinical psychologists can contribute theories and models to provide frameworks for other professionals to understand possible influences on medical communication, and offer consultations and training to enhance skills that foster positive therapeutic alliance [78]. Additionally, medical professions are often the gatekeepers to referrals of patients to psychological services. Medical students' learning and understanding of mental illness during their training will impact on referrals. Therefore, input from clinical psychology

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on the six week teaching module would offer medical students a different perspective of mental illness and may challenge some of the negative attitudes held towards psycho-social causes of mental illness.

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Chapter 3: Concluding Discussion

This chapter contains three main sections including an expanded discussion of the present study, a report of the findings to be disseminated to professionals, and a brief proposal for a future study.

Concluding Discussion of the Present Study

The concluding chapter focuses on a general discussion of the results of the present study, methodological considerations, and clinical implications. It also contains a brief report of the empirical study for professionals and a brief research proposal for a future study.

1. General Overview & Expanded Discussion

The literature highlighted that racial disparities in how physicians communicate and interact with Black and Ethnic Minority (BME) patients in comparison to non-BME patients, were widely documented (Department of Health, 2005; Johnson, Roter, Powe, & Cooper, 2004; Smedley, Stith, & Nelson, 2003; van Ryan & Burke, 2000 ; Cene, Roter, Carson, Miller, &Cooper, 2009). However, little was known about the processes that contributed to these racial disparities in physicians' communication behaviours with patients. Therefore the aim of this study was to investigate whether medical students' racial and mental health biases varied across the race of hypothetical mental health patients, (b) understand students' conceptualisations of mental health, (c) examine how students' conceptualisations and mental health attitudes related to students' communication with simulated mental health patients.

Contrary to studies that have found implicit biases against BME people, and that these biases had led to disparities in patient care (Blair et al., 2013; Sabin, Nosek, & Greenwald, 2009; Smedely et al., 2003), the sample's Implicit Association Test (IAT) mean score was indicative of students equally associating positive words with a black or white race. Therefore, it can be inferred that the present study's sample will be less likely to display racial discriminatory behaviours. Nevertheless, the weak implicit race bias found may reflect the sample's characteristics, whereby students may have been exposed to previous teaching/ training on racial issues or that the students in the sample lived in an environment or culture in which BME individuals were valued equally to non-BME people.

However, a major criticism of IAT has been put forward by the environmental association model (Karpinski & Hilton, 2001) which postulated that IAT represents associations one has been exposed to in their environment and does not necessarily reveal one's deep rooted racial prejudices.

The present study also found no relationship between implicit and explicit racial attitudes, or between racial attitudes and mental health attitudes. The dissociation between explicit and implicit racial attitudes concurred with theoretical models that have suggested that implicit and explicit attitudes are two separate but related constructs (Greenwald & Banaji, 1995; Wilson, Lindsey, & Schooler, 2000; Strack & Deutsch, 2004). According to the two construct models (Wilson et al., 2000; Strack & Deutsch, 2004) both implicit and explicit attitudes differ in terms of intentionality, effort and awareness; whereby explicit attitudes are thought to predict intentional and controlled behaviours and implicit attitudes are considered to predict uncontrollable and subtle responses (Greenwald & Banaji, 1995; Dovidio, Kawakami, & Gaertner, 2002).

However, the lack of associations found between students' clinical and communication Objective Structured Clinical Examination (OSCE) scores and students' mental health attitudes are inconsistent with the literature that has suggested that attitudes influence actual behaviour (Greenwald & Banaji, 1995; Dovidio et al., 2002; van Ryan & Burke, 2000) and may reflect the fact that students in the sample were under exam conditions. Therefore, students may have been more focused upon the task set by the examiners (i.e. taking a clinical history) and may have held a predefined pro-forma in order to pass the station, which exerted greater influence on their scores than the students' stigmatising attitudes. A further explanation may be that the OSCE's may not be a good measure for assessing discriminatory behaviours.

Stigma has been described as arising from social categorisation. Both Hogg and Abram, (1988) and Tajfel and Turner (1979) theorised that individuals perceived themselves as belonging to a social category (in-group) and viewed the group which they belonged to as being different to other groups (out-group). They also claimed that people have a tendency to view out-groups less favourably than

in-groups (Tajfel &Turner, 1979). These theories have provided the overarching framework for research that have identified the processes and components of stigmatising attitudes (Rosenberg & Hovland, 1960; Katz, 1960) and have formed the basis for how attitudes are measured. While the attitude measures (social distance, IAT and explicit racial bias measure) in the current study are premised on the overarching theory that negative attitudes are formed on the basis of social categorisation, the measures differ on which components of attitude they measure. For instance, implicit versus explicit or cognitive versus affective aspects.

Both the social distance scale and the IAT have been extensively used in research and their reliability and validity have been widely documented (please refer to the methods section). Relatedly, the explicit racial attitudes measure was designed by the author to correspond with the target concept (race) in the IAT. Within the racial bias literature, skin tone has been a widely used variable to denote race, and racial biases based on skin colour have been extensively documented (Harrison & Thomas, 2009). More specifically, research has shown a white skin tone preference over darker skin tones in explicit and implicit attitudes of health care professionals (Sabin, Nosek, Greenwald & Rivara, 2000; White-Means, Dong , Hufstader & Brown, 2009; Dovidio et al., 2002).Therefore, race was operationalised in the study's explicit racial bias measure as skin tone.

The lack of findings in the current study for the explicit racial bias measure may be owing to the fact that skin tone is only one mechanism used to assign individuals to a racial category (Patel, Bennett, Dennis, Dosanjh, Mahtani, Miller & Nadirshaw, 2000). Therefore, skin tone may not have been a salient enough variable to elicit students' explicit racial biases. Students may categorise race based on other ancestry, geographical, linguistic and religious factors (Patel et al., 2000). Nevertheless, a more plausible explanation for the lack of findings for the explicit racial bias measure may be due to the fact that students underreported their preference for a skin tone in order to provide a socially acceptable response.

Culture may have also shaped how students perceived and responded to others with mental illness. Although mental illness is stigmatised across societies, Abdullah and Brown (2011) and Carpenter-Song et al. (2010) found cultural variations in mental illness stigma in which non-western cultural backgrounds were more likely to associate danger and mistrust with mental illnesses (Abdullah & Brown, 2011; Furnham & Chan, 2004) and desired greater social distance (Fabrega, 1991; Rao, Feinglass, & Corrigan, 2007). Two cultural mechanisms have been described by Cheon and Chiao (2012) that can account for the cultural variations observed in the current study's students' willingness to interact with mental health patients. Firstly, differences may have risen from cultural variability in lay theories and meanings of mental illness, and secondly, differences in perceived social norms regarding the acceptability of experiencing and expressing these biases may have influenced how BME and non-BME students reported levels of social distance.

The study did not find evidence that a single domain (i.e. biological, psychological and social) was believed to be a fundamental cause to mental illness, but instead that students held a multi-causal understanding and conceptualisations of mental illness. These conceptualisations are consistent with evidence-based practice, which asserted that best practices for the treatment of mental illness is a combination of medication and psychosocial interventions (Kanton, Roy-Burne, Russo, & Cowley, 2002). Overall, the patterns of correlations of students' conceptualisations of mental illness with the other study's variables presented a complex picture. However, what was of interest was that students with higher agreement towards psycho-social events reported greater social distance. This finding is inconsistent to what has been reported in the literature (Read & Law 1999; Read & Harre, 2000; Grausgruber, Meise, Katsching, Schony, & Flesischhacker, 2007; Martin, Pescosolido, & Tuch, 2000). One possible explanation for these findings is that conceptualising mental illnesses in this manner may have engendered perceptions of irresponsibility, lack of personal control or having weak character towards people with mental illness, which subsequently led to feelings of either anger and frustration, or unpredictability and uncontrollability, which in turn may have led to avoidance and increased desired social distance by students.

1.1 Methodological Considerations

Lack of association between attitudes and behaviours may be owing to the fact that the examiners and the simulated patients were rotated around all the OSCE stations, therefore examiner and simulator biases may have also confounded the findings. Therefore, students' overall clinical and communication performance derived from a total average score of all the clinical and communication OSCE stations may have been a better indicator of students' performances (as opposed to their performances on the psychiatry station per se), as this score also takes into account examiner and simulator differences. However, one drawback from using this overall score will be that students' communication with physical health and mental health patients can not be differentiated.

It is important to note that beyond the control of the study, there were no BME simulators present at the OSCE station. Such an absence prevented the study having the opportunity to explore the relationship between racial attitudes and physicians' communication. Previous studies have found a strong effect of racial attitudes towards BME than non-BME patients (Cooper et al., 2012; Moskowitz, Stone, & Childs, 2012). Further research will need to determine whether students' racial attitudes directly influenced communication behaviours by examining students' clinical interactions with BME patients. Also, the study did not take into account other factors that have been linked to patients' characteristics that may have also influenced physician-patient communication behaviours. For example patients' communication behaviours and language barriers (Cooper-Patrick et al., 1999; Meeuwesen, Harmne, Bersen, & Bruijnzeels, 2006; Schouten, Meeuwesen, Tromp, & Harmsen, 2007). Although students reported responding to BME and non-BME vignettes equally, vignettes were not systemically assigned to students at time one or two. This resulted in many students receiving the same vignette at both time points. Therefore, the lack of control in manipulating the vignettes may have influenced the non-significant impact of patients' race on students' attitudes.

A further limitation is that it has been argued that the social distance measure (Link, Cullen, Frank, & Wozniak, 1987) only measures one aspect of stigma, does not account for other components (e.g. labelling or affective reactions [Kassam, Glozier, Leese, Henderson, & Thornicroft, 2010]) and is

used as a proxy to actual behaviours (Corrigan, Backs, Green, Lickey, & Penn, 2001). Therefore, the lack of observed differences in social distance scores post teaching may be explained by Haghighat (2001) who noted that the relationship between knowledge about mental illness and attitudes are complex, as social judgement is determined by feelings rather than solely cognitive components of attitudes. Therefore, measures that focus on feelings or actual behaviours as opposed to intentions and cognitions may be more robust. Similarly, the measures used in the study were self-reported scales of attitudes to hypothetical patients, rather than a true representation of students' responses in the real world (Korszun, Dinos, Ahmed, & Bhui, 2012). Therefore, ecological validity may be enhanced by using video tapes of patients or clinical case histories.

 Familiarity with mental illness was assessed categorically via type of previous contact. Corrigan et al. (2001) argued that such data has little power in comparison to measures based on interval and ratio scales. Therefore, future studies would benefit from the utilisation of the Level of Contact Report, (Holmes, Corrigan, Williams, Canar, & Kubiak, 1999).

The study included multiple comparisons therefore, the possibility of a statistical type one error exists. However, this risk was diminished, given that the analyses were grounded within previous literature and most of the observed associations were in the expected directions or did not reach statistically significant levels. Caution must also be taken when inferring causality as the study employed a cross-design and the related factors were only correlates. Additionally, different participants completed the study at time one and time two with only 34% of students completing the measures at both time points. This restricted the analyses to two separate cross-sectional analyses and limited inferences that can be made across time.

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1.2 Clinical Implications

The study found that students' mental health attitudes in the form of social distance influenced whether mental health patients experienced stigma. Furthermore, such attitudes emerged in relation to a hypothetical case vignette. Therefore, it could be inferred that the increased desire for social distance reported by BME students and students with no or limited previous contact may become more prominent during encounters with real patients in real clinical settings, if students are not offered positive, appropriate and meaningful contact with mental health patients that challenges stereotypes (Stone & Moskowitz, 2011). More importantly, such negative biases held may be transmitted into clinical practice through differential diagnosis, treatment and care, and can affect patients' willingness to seek and adhere to treatment (Nieuwsma, Pepper, Maack, Birgenheir, 2011).

Similarly, exploring whether students held biological and non-biological conceptualisations of mental illness is of clinical importance, as conceptualisations held by students may affect students' perceptions of patients' accountability of the illness, curability, efficacy of treatment and may determine patients' treatment plans (Thornicroft, 2008). For example the current study found that students who agreed highly with psycho-social causal beliefs were less willing to interact with mental health patients. Therefore, such students may be more likely in clinical practice to blame patients for the onset of the mental illness symptoms or view them as a management problem due to their unpredictability, and consequently exhibit more discriminative behaviours towards mental health patients. This in turn will impact on the level of patient-centred care offered. Nevertheless, students as a cohort were able to account for both psycho-social and biological explanations of mental illness. Adoption of an integrative model of mental illness may provide students with a wider spectrum of knowledge regarding factors influencing the process and causality of mental illness which they can disseminate to their patients, as well as improving physician-patient relationship (Engel, 1977). It is also important to note that patients' views about mental illness may also be shaped by clinicians, which may in turn affect patients' access to services and compliance with medication and treatment (Ahn, Proctor, & Flanagan, 2009).

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Students in the study will go on to populate the medical profession, therefore creating an awareness of individual's and cultural attitudes and beliefs about mental illness; and developing approaches to reduce the use of negative attitudes when providing care is essential for the implementation of effective approaches to mental health care (Cheon & Chiao,2012).

Given that the study highlighted that mental health biases are not exclusively a 'non-BME problem', medical training needs to also place onus on cultural psychiatry teaching. Such teaching would shift away from traditionally solely focusing on 'Eurocentric' views of mental illness, but also acknowledge and incorporate cultural variations in how mental illness is culturally constructed and interpreted, and challenge these biases transmitted by BME cultures. It is important that cultural variations from the clinicians' perspectives are also explored as opposed to exclusively focusing on how BME patients construe mental illness. Adopting the latter standpoint may buffer students from recognising and revising their own biases held.

Stigmatisation towards mental health patients was also largely influenced by type of contact students had with mental illness, whereby those whose contact had higher levels of intimacy (a friend or a family member had a mental illness) reported more positive attitudes. Vogel and Wade (2009) suggested that contact with mental illness will have a positive effect on attitudes if a number of conditions are satisfied. Therefore, the medical curriculum can mitigate the discriminatory responses associated with mental health patients by ensuring that the opportunities students have to interact with mental health patients during their clinical placement are adequate in the frequency and length of contact (Vogel & Wade, 2009) and comprise of high levels of intimacy (Ellison & Powers, 1994), cooperative and equal status interaction (Adlerfer, 1982), and include frequent contact with recovered individuals or individuals who mildly disconfirm to the stereotype of mental illness (Johnston & Hewstone, 1992).

More recently, Stone and Moskowitz (2011) put forward a number of practical skills students can utilise to avoid biased delivery of patient-care caused by mental health stigmatisation. These skills

included counter-stereotypical information about a patient, viewing a patient as having several social identities rather than one stereotyped identity, taking the patient's perspective, and seeing patient care as representing opportunities to put into practice one's goal of helping others (Woolf & Dacre, 2011).

2. Professional Report

Due to the psychiatry teaching module being organised and taught predominantly by psychiatrists in clinical practice, the summary has been developed in the format of a brief professional report.

Investigating third year medical students' racial and mental health attitudes

Importance of the Study

Given that education holds a key role in anti-stigma, and the increasing ethnic and cultural diversity in the United Kingdom [UK] (Office of National Statistics, 2012), medical students regardless of their future speciality will inevitable treat BME patients with mental illness. Therefore, understanding medical students' conceptualisations of mental illness and their racial and mental health biases towards mental health patients is important for tackling healthcare inequalities in later practice.

Study's Aims

The aims of this study were (a) to investigate third year medical students' racial and mental health attitudes across Black and Minority Ethnic (BME) and non-BME mental health vignettes, (b) examine how students conceptualise mental illness, and (c) explore the relationship between mental health attitudes, conceptualisations of mental illness and clinical communication with simulated patients during the Objective Structured Clinical Examination (OSCE).

Participants

All third year medical students were invited to take part. Student's data was collected at the start of the first and final lecture of their introductory psychiatry module and during the OSCE. During the first lecture 201 students took part, of which 102 students were from a BME background and the remaining 96 students were non-BME. At the final lecture 141 participated, of which 63 students were BME. Only 114 students completed the questionnaires at both lectures.

Methodology

Students were randomly given either a vignette of a BME or non-BME patient with probable schizophrenia, and were asked to complete the attached questionnaire pack in relation to the vignette. The questionnaire pack looked at students' levels of previous contact with mental illness, willingness to socially interact with people with mental illness (social distance), perceived likelihood that people with mental illness would be devalued and discriminated against by society (perceived stigma in others), conceptualisations about the causes of mental illness; and students' explicit racial attitudes. A web-link to the on-line Implicit Association Test (IAT) was also sent to students to complete. Data collection was repeated six weeks later at the final-psychiatry lecture. Students' ability to respond to and communicate with a stimulated patient with depression was also collected during the OSCE.

Findings

- Overall students were 'probably willing' to interact with mental health patients.

- Students' willingness to interact socially with mental health patients were not affected by student's racial attitudes or if they were given a BME or non-BME vignette.

- Students with no or limited previous contact with people with mental illness were less willing to interact socially with people with mental illness.

- BME students were less willing to interact socially with people with mental illness in comparison to non-BME students before and after the teaching module.

- Students were able to account for both psycho-social (e.g. Mental illness is a response to traumatic or distressing early experiences') and biological (e.g. The way in which a person thinks about themselves and the world is affected by genetic abnormalities) explanations for causes of mental illness. Students' agreement for a bio-psycho-social model to explain mental illness increased further after the teaching module.

- Students who agreed highly with psycho-social factors causing mental illness were less willing to socially interact with people with mental illness.

- Students' overall willingness to socially interact with mental health patients did not change significantly after the teaching module.

- Students' mental health attitudes did not influence how students responded to mental health patients at the OSCE.

Future Recommendations

To reduce the potential for biases to influence patient care, it is important that their medical training provides educational resources and skills that foster medical students' awareness of and ability to curtail the processes that lead to the activation and use of biases when they interact with mental health patients. This can be done through the following:

- Exploring and understanding attitudes and biases of mental illness when students come from different cultures and ethnicities, by routinely offering cultural psychiatry teaching that looks at cultural variations from the clinicians' perspective.

- Ensuring that students gain contact with mental health patients during their clinical placement that is supported by the institution, adequate in duration and frequency, and consists of high levels of intimacy, co-operative and equal status interaction, and include frequent contact with recovered individuals or individuals who mildly disconfirm to the stereotype of mental illness.

- Ensuring that the teaching provides students with an array of models to conceptualise mental illnesses and to support students to develop skills to challenge biases associated

with holding a higher agreement with psycho-social causal factors of mental illness. This can be achieved through the implementation of practical skills put forward by Stone and Moskowitz (2011). These skills included counter-stereotypical information about a patient, viewing a patient as having several social identities rather than one stereotyped identity, taking the patient's perspective, and seeing patient care as representing opportunities to put into practice one's goal of helping others.

3. Future Research

A significant methodological drawback of the current study was its inability to explore the relationship between student's racial attitudes and their communication behaviours with BME mental health patients. Given that the literature base has widely documented that physicians communicated differently to BME patients in comparison to non-BME patients (Johnson et al., 2004; Smedley et al., 2003; van Ryan & Burke, 2000 ; Cene et al., 2009), but little is known why these differences existed, it would be beneficial for this to be investigated in future work.

As this was the first study to investigate UK medical students' racial and mental health attitudes, future research should replicate the current study and build upon the current study's limitations. Firstly, seeing that the current study was unable to obtain BME actors for the role as simulated mental health patients during the OSCE station, it would be vital for the future study to investigate students' communication behaviours with BME patients. One way of overcoming the difficulties in obtaining BME actors for the simulated patient role and enhancing ecological validity would be to measure and record students' communication with real BME mental health patients in a clinical setting.

Also a more complex coding technique of students' communication behaviour, such as the Verona Coding Definition of Emotional Sequences (VR-CoDES; Zimmerman, et al., 2011) may give a clearer marker of communication behaviours. While the current study relied on examiners' scores to infer

students' clinical and communication competencies, the VR-CoDES enables the exploration of how well clinicians respond to patients' expressions of emotions and worries.

It would also be advantageous to monitor students' non-verbal communication behaviours, given that the established research has suggested that implicit attitudes manifest in unintentional, nonverbal channels of behaviours that are difficult to control (Dovidio et al. 2002; Wilson et al., 2000). In accord with Devine (1989) who postulated that individual's implicit prejudice reflect a cultural bias towards ethnic minorities,   it is proposed that the future study should ascertain students' demographic information pertaining to students' country of family origin, and the country in which they spent their formative and schooling years.

3.1 Proposed Research Proposal for Prospective Study

Based on the limitations of the current study the prospective study would aim to further explore the following:

- Whether students' implicit racial attitudes influence how students communicate with BME mental health patients in real life clinical settings
- Whether there are differences in implicit racial attitudes across students' ethnicity and culture.
- What aspects of clinical communication behaviours are predicted by implicit attitudes?

The prospective study would repeat the same research design and measures as used in the current study with third year medical students. However, instead of students' communication being measured at the OSCE station, student-patient communication would be measured and recorded through students' interaction with real BME mental health patients in a clinical setting. VR-CoDES would be used to code students' verbal and non-verbal responses to patients' expressions of emotions and worries. To control for potential inter-rater biases associated with coding the recorded data, two coders, one from a BME background and the other from a non-BME background will be required and

both coders will be blinded to the research hypothesis. Also, levels of previous contact would be measured using the interval scale questionnaire, Level of Contact Report (Holmes et al., 1999).

4. Overall Summary

In summary, the literature review widely described differences in physicians' communication with BME and non-BME patients during clinical encounters. What was less clear was how these differences arose. However, there has been a small emergence of research looking into factors that may have contributed to racial disparities in patient care and have found that such disparities may be linked to physicians' attitudes and biases (van Ryan & Burke 2000; Cooper et al., 2012; Smedley et al., 2003). Given the importance of education in abating negative attitudes and the fact that medical students will inevitably go on to see BME mental health patients in their later careers, regardless of their chosen speciality; the current study sought to consolidate the current literature base by investigating whether physicians' racial biases, mental health attitudes (in the form of social distance and perceived stigma in others) varied across the race of the vignettes, and explored the types of conceptualisations of mental illness held by students. Also the study investigated whether conceptualisations of mental illness and mental health attitudes were related to how students communicated with a simulated psychiatric patient.

Although the study was not free from some methodological limitations, the study highlighted that mental health stigma in the form of social distance, was largely influenced by students' ethnicity, their familiarity with mental illness and whether students' held psycho-social conceptualisations of mental illness. While the first two findings seemed to be in line with the predominant literature-base, the latter finding was not and provides stimulus for challenging assumptions that holding psycho-social conceptualisations will reduce stigma.

Therefore, in order to reduce the potential for biases to influence patient care, the medical school has a responsibility in developing educational resources and meaningful clinical opportunities that (a) allow students to gain awareness of the biases they hold by moving away from a programme that solely focuses of 'Eurocentric' views of mental illness, but incorporates ethnic cultural interpretations and constructions of mental illness, and (b) enable students to learn skills to mitigate the processes that lead to the use of biases during clinical encounters, such as, endorsing a bio-psycho-social framework to understanding mental illness.

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Appendices

Appendix A: STROBE Checklist

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported
Objectives	3	State specific objectives, including any prespecified hypotheses
Methods		
Study design	4	Present key elements of study design early in the paper
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up
		Case-control study—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls
		Cross-sectional study—Give the eligibility criteria, and the sources and methods of selection of participants
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed
		Case-control study—For matched studies, give matching criteria and the number of controls per case
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group
Bias	9	Describe any efforts to address potential sources of bias
Study size	10	Explain how the study size was arrived at
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding
		(*b*) Describe any methods used to examine subgroups and interactions
		(*c*) Explain how missing data were addressed
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed
		Case-control study—If applicable, explain how matching of cases and controls was addressed
		Cross-sectional study—If applicable, describe analytical methods taking account of sampling strategy
		(*e*) Describe any sensitivity analyses

Results

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed
		(b) Give reasons for non-participation at each stage
		(c) Consider use of a flow diagram
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders
		(b) Indicate number of participants with missing data for each variable of interest
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time
		Case-control study—Report numbers in each exposure category, or summary measures of exposure
		Cross-sectional study—Report numbers of outcome events or summary measures
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included
		(*b*) Report category boundaries when continuous variables were categorized
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses

Discussion

Key results	18	Summarise key results with reference to study objectives
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence
Generalisability	21	Discuss the generalisability (external validity) of the study results

Other information

Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

Appendix B: Studies' Quality Assessment

Table 1
Quality Assessment Score for each Study using the STROBE Checklist

Items in the STROBE	Aseltine & Katz, (2009)	Boa et al. (2007)	Cene et al. (2009)	Cooper et al. (2003)	Ghods et al. (2008)	Jager & Wynia (2012)	Johnson et al. (2004)	Meeuwesen et al. (2006)
1 (a)	0	0	0	0	0	0	0	0
1 (b)	1	1	1	1	1	0	1	1
2	1	1	1	1	1	1	1	1
3	0	0	1	1	1	1	1	1
4	1	1	0	1	1	1	1	1
5	1	1	1	1	1	1	1	1
6 (a)	1	1	0	1	1	0	1	1
6 (b)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
7	0	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1
9	0	0	0	0	0	0	1	0
10	1	1	1	1	1	1	1	1
11	0	1	1	1	1	1	1	1
12 (a)	0	1	1	1	1	1	1	1
12 (b)	0	1	1	1	1	1	1	1
12 (c)	0	0	1	1	0	1	0	0
12 (d)	n/a	n/a	n/a	0	n/a	n/a	n/a	n/a
12 (e)	0	n/a	0	1	0	0	0	n/a
13 (a)	0	1	1	1	1	0	1	1
13 (b)	0	1	1	1	0	1	1	0
13 (c)	0	0	0	0	0	0	0	0
14 (a)	1	1	1	1	1	1	1	1
14 (b)	0	0	n/a	0	0	0	0	0
14 (c)	n/a	n/a	n/a	0	n/a	n/a	n/a	0
15	1	1	1	1	1	1	1	1
16 (a)	1	1	1	1	1	1	1	1
16 (b)	n/a	1	n/a	n/a	n/a	1	n/a	n/a
16 (c)	n/a	n/a	n/a	n/a	n/a	1	n/a	n/a
17	0	0	1	1	0	0	0	n/a
18	0	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1
21	1	1	1	1	1	1	1	1
22	1	1	1	1	1	1	1	1
Summary	14/29	22/30	22/ 28	25/31	21/29	22/31	23/29	21/28
Percentage	48%	73%	78.5%	81%	72%	71%	79%	75%

Note. N/a= not applicable

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Appendix B continued

Table 1

Items in the STROBE	Meeuwesen et al. (2007)	Napoles et al. (2009)	Schouten et al. (2007)	Schouten et al. (2009)	Siminoff et al. (2006)	Sleath et al. (2003)	Vaccaro & Huffman (2012)	Yanez et al. (2012)
1 (a)	0	0	0	0	0	0	0	0
1 (b)	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1
3	1	1	1	0	0	1	1	1
4	1	1	1	1	1	1	0	1
5	1	1	1	1	0	1	1	1
6 (a)	0	0	0	0	1	0	1	1
6 (b)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
7	1	1	1	1	1	1	0	1
8	1	1	1	1	1	1	0	1
9	0	0	0	0	0	0	0	0
10	1	0	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1
12 (a)	1	1	1	1	1	1	1	1
12 (b)	1	1	1	1	1	1	1	1
12 (c)	0	1	0	0	0	0	1	0
12 (d)	n/a	0	n/a	n/a	0	n/a	0	0
12 (e)	n/a	n/a	n/a	n/a	n/a	n/a	0	n/a
13 (a)	0	1	0	1	1	1	0	1
13 (b)	0	0	0	0	0	0	n/a	1
13 (c)	0	0	0	0	0	0	0	0
14 (a)	1	1	1	1	1	1	1	1
14 (b)	0	0	0	0	0	0	1	0
14 (c)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
15	1	1	1	1	1	1	1	0
16 (a)	1	1	1	1	1	1	1	0
16 (b)	n/a	1	0	0	1	0	1	1
16 (c)	n/a	1	n/a	n/a	1	n/a	1	n/a
17	1	0	n/a	n/a	n/a	n/a	0	1
18	1	1	1	1	1	1	1	1
19	1	1	0	1	1	1	0	1
20	1	1	1	1	0	1	1	1
21	1	1	1	1	0	1	0	1
22	1	1	0	0	1	0	0	0
Summary	20/28	22/31	17/28	18/28	19/30	19/28	18/31	21/31
Percentage	71%	71%	61%	64%	63%	69%	58%	68%

Note. N/a= not applicable

Appendix C: Studies' Main Characteristics

Table 2 Main study characteristics of the studies included in the review

Author(s)	Country	Study design	Sample characteristic	Measure of communication	Objectives and summary of key findings
Aseltine & Katz (2009)	U.S.	Cross-sectional/ Physician survey April –July 2009	**286 physicians** • Males (n=232) • White non-Hispanic (n=246) • Hispanic (n=11) • Black (n=6) • Asian (n=17) • Other ethnicity (n=6) • Physicians who had mostly white patients (n=200)	Survey data was divided in to four sections: • How physicians provided care for patients with language barriers • The role of patients' characteristics • Challenges faced when treating patients from different race/ethnicity or culture • Physicians training and education on diverse culture care	**Objective:** Evaluate how physicians provide care to ethnically diverse population. **Findings:** • Physicians did not use best practices when communicating with patients with little English • Physicians whose patients were largely non-white were more likely to use best practices. • GPs were more likely to work through language barriers. • Patients' race and culture influenced how physicians discussed health issues. • GPs were more likely to be influenced by patients' race.
Boa et al. (2007)	U.S.	Cross-sectional/ Patient survey from two research programs in 1998-2004 & 2000-2006.	**Colorectal Cancer screening (CRC) sample** (n=5, 978) • White (n=4041) • African American (n=400) • Hispanic (n=1,250) • Asian (n=221) • Other (n=66) **Physicians:** 59.8% were white and 75.9% were males. **Mammogram screening sample** (n=3,584) • White (n=2301) • African American (n=280) • Hispanic (842) • Asian (n=125) • Other (n=26) **Physicians:** 56.8% were white and 68.6% were males. **Prostate-Specific Antigen test (PSA) sample** (n=1,179) • White (n=657) • African American (n=98) • Hispanic (n=340)	Assessed whether physicians discussed cancer screening.	**Objective:** If racial and socio-economic differences in cancer screening discussion are due to 'within' or 'between' physician differences. **Findings:** • Discussion rates by race/ ethnicity showed white and black patient reported higher rates of discussion than Hispanic and Asian patients. • Much of the disparities seemed to be a result of 'within-physician' differences (p<.01). • Results showed strong education gradient in physicians' discussion. Whereby less than college graduates were less likely to have discussed CRC (p<.01), mammogram (p<.05) or PSA (p<.01). Differences by income were only found for discussions for CRC.

			• Asian (n=68) • Other (n=17) **Physicians:** 48.8% were white and 81% were males.		
Cene et al. (2009)	U.S.	Cross-sectional/ Audio-taped recordings.	**226 Hypertensive patients** • Black patients with uncontrolled BP (n=63) • White patients with uncontrolled BP (n=28) • Black patients with controlled BP (n=74) • White patients with controlled BP (n=61) **31 physicians** • White (n=13) • African-American (n=18)	Communication behaviour classified as • Instrumental behaviours • Affective behaviours , • RIAS coding system used. Additionally coders rated the global affect and duration of the visit	**Objective:** Whether being black and having poor blood pressure (BP) influenced physician-patient communication. **Findings:** • Adjusted analysis reported differences between controlled white patients and controlled back patients for psychosocial talk (p=0.03) and rapport building (p=0.02). • Patients' positive affect was lower for uncontrolled blacks. • Uncontrolled blacks also had the shorter visit time compared to controlled whites. • In post examination, there were differences between patient affect between controlled blacks and controlled whites (p=0.02). • Visits with controlled whites were longer than controlled blacks (p<.00).
Cooper et al. (2003)	U.S.	Cohort-study/ Pre/ post visit survey and audiotape analysis.	**252 patients** • White (n=111) • Black American (n=141) **31 physicians** • White (n=13) • Black (n=18)	RIAS coding system used. Verbal communication behaviours were categorised as: • Duration of visit • Speech speed • Physicians' verbal dominance • Patient-centred interviewing Additionally, global affect and patients and physicians positive affect were coded.	**Objective:** Compare patient-physician communication on race-concordant and race-discordant visits. **Findings:** • Race-concordant visits were longer (p=.01), more participatory (p<.00); and had higher rating of positive patient affect (p=.03). • There were no differences in patient centeredness and physician verbal dominance in race-concordant and race-discordant visits. • Patients in concordant visits were more satisfied with their visits (p<.01) and would recommend their physician (p=.03).
Ghods et al. (2008)	U.S.	Cross sectional/ Audiotapes and survey. July 1998- June 1999 and January- November 2002.	**108 depressed patients**: • White patients (n=46) • Black patients (n=62) • 21% of patients were seen by black physicians • 44% seen by female physicians. **54 physicians**	RIAS coded audiotapes. Communication behaviours were coded as: • Instrumental • Affective	**Objective**: Compare physician-patient communication for black and white depressed patients. **Findings:** • Adjusted scores found black patients had lower depression-related statement by their physicians (p=.02). • Black patients experienced visits with less rapport-building (p=.01). • Physicians perceived black patients as less emotionally distressed (p=.06). • There was no difference in race or gender concordant visits on depression communication. • Rapport building exchange was higher in race concordant visits.

Jager & Wynia (2012)	U.S.	Cross sectional/ Patient survey data in 2008 and 2009	**2,741 patients** • Hispanic/ Latino (n=1,288) • Black (n=384) • White (n=877) • 66% had English as their preferred language • 26%, Spanish was a preference • 4% preferred speaking in another language other than Spanish or English	Communication behaviours were characterised by patients reported incidence of receiving teach-back (e.g. patients required to copy physicians' instructions)	**Objective:** Which patient groups are more likely to receive teach-back. **Findings:** • Black patients had nearly 90% greater odds in reporting receiving teach-back (p<.00) compared to whites. • Hispanic/ Latino reported teach-back more frequently than whites (p=.03). • Spanish speaking patients and patients who preferred to speak in another language had higher odds of receiving teach-back (p<.00). • Levels of education was also a predictor if patients received teach-back with the least educated reporting greater odds of teach-back (p<.01).
Johnson et al. (2004)	U.S.	Cross sectional/ Audio-taped data	**458 patients** • African American (n=256) • White (n=202) • 30% white patients and 52% black patients saw a physician from a discordant-race **61 physicians** • White (n=30) • Black (n=21) • Asian (n=9) • Other ethnicity (n=1)	RIAS coded audiotapes. Communication was coded for; • Overall process • Patient centred orientation • Overall emotional tone	**Objective:** Explore associations between patients' race and patient-physician communication. **Findings:** • There was no difference in duration or speech speed of medical visits across race. • Physicians were more verbally dominant (p<.00) and less patient centred (p<.05) with African American patients. • Coders rated that physicians had less positive affect towards African American (p< .05).
Meeuwesen et al. (2006)	Netherlands	Cross sectional/ Videos and patient interviews	**144 patients** • Dutch (n=83) • Ethnic minority (n=61) • Turkish/Moroccan (n=27) • Surinamese/ Antillean (n=20) • Other non-Western (n=14) **31 GPs** • Dutch (n=29) • Other European (n=2)	RIAS coded tapes. Verbal communication was categorised into: • Instrumental • Affective	**Objective:** If there are differences in GPs' verbal interaction with immigrant and Dutch patients. **Findings:** • Longer consultations with Dutch patients and (p<.01) non-religious individuals (p<.01). • Dutch patients spoke more than ethnic minority patients (p<.05). • GPs were more verbally dominate with Turkish/ Moroccan and 'other' ethnic group. • Dutch patient disagreed more with their GP and exchanged more lifestyle information and psychosocial issues. • GPs showed similar instrumental behaviours towards Dutch and ethnic minority patients. • GPs were more involved (p=0.02) and empathetic (p=0.04) towards Dutch patients; had more partnership building utterances with ethnic minority patients (p<.00).
Meeuwesen et al. (2007)	Netherlands	Cross sectional/ Video and patient interview	**103 patients** • Dutch (n=47) • Non-western ethnic minority (n=56)	Data was analysed according to conversation analytical conventions. Communication behaviours were characterised as: • Agenda setting	**Objective:** Cultural differences in the managing of information in medical conversations. **Findings:** • GP set the agenda and there was no relation to ethnicity

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			29 GPs • All were Dutch	• Segment shifting • Typology of interview • Mutual understanding	or level of mutual understanding. • Dutch patients initiated more backward directed segments shifts compared to ethnicity patients (p<0.01). • When both Dutch and ethnic minority patients rated poor mutual understanding; Dutch patients initiated more segment shifts directed forward (p=.02). • Consultations were more traditional with ethnic minority (45%) compared to (28%) with Dutch patients. • When mutual understanding in both groups were poor there was a difference in typology of consultation between the two groups (p=.01). • Dutch patients had more conflicting and complaining type conversation and ethnic minority patients had more traditional and co-operative typology.

Napoles et al. (2009)	U.S.	Cross sectional/ Telephone interview	**1,664 patients**
			    • African Americans (n=435)
			    • English speaking Latinos (n=428)
			    • Spanish speaking Latinos (n=383)
			    • Whites (n=418)
				Communication was characterised as Interpersonal Process of Care (IPC). IPC included:
				    • Communication
				    • Patient-centred decision making
				    • Interpersonal style
					Objective: If IPC is associated with patient satisfaction and if there are differences across racial, ethnic and language groups.
					Findings:
					• White patients scored higher for patient centeredness, good clarity of information and low discrimination.
					• African American patients reported best quality for physicians elicited concerns, responded well, explained results, and showed compassion/ respect in comparison to Spanish- and English-speaking Latinos.
					• Latinos reported the worse on all measures expect discrimination. They both also reported significantly less satisfaction with physicians and health care.
					• The following was positively associated with satisfaction with physician for all groups: decided together (p<.00); compassionate/ respectful (p<.00) and levels of discrimination (p<.05).

Schouten et al. (2007)	Netherlands	Cross sectional/ Videotaped recordings	**103 patients**
			    • Dutch (n=47)
			    • Turkish/Moroccan (n=23)
			    • Suriname/ Antillean (n=10)
			    • Other non-western background (n=21)
			
			29 GPs
			    • All were Dutch
			    • Males (n=22)
				RIAS coded video recordings for physician behaviour.
				Communication characterised as:
				    • Affective
				    • Instrumental
				
				Patients' communication behaviour was measured by participation.
					Objective: The extent to which patient participation is influenced by patient's ethnic background and doctor's communicative behaviour.
					Findings:
					• Dutch patients asked more direct and indirect questions during consultations (p<.05) compared to ethnic minority groups.
					• Although the frequency of GPs' instrumental and affective behaviours was lower for the ethnic minority patients, it did not reach significance.
					• GP's affective behaviour had the strongest effect on patients' questioning (p=.02).
					• Patient's external health locus of control was significantly predictive of less indirect patient questioning (p<.05).
					• Patients direct question-asking influenced GPs'

					instrumental verbal behaviour (p=.07).
Schouten et al. (2009)	Netherlands	Cross sectional/ Videotaped recordings	**103 patients** • Ethnic minority (n=56) • Dutch (n=47)	Robert & Sarangi (2002) coding framework was used. Communication behaviours were characterised as interactional styles and were coded as: • Stimulating utterances • Reactive utterances Mutual understanding was also assessed.	**Objective:** Comparison of physicians' interactive styles with Dutch and ethnic minority patients. **Findings:** • Ethnic minority patients heard fewer stimulating utterances from their GP than Dutch patients (p<.05) and less joint problem solving (p<.05). • Religious patients heard less stimulating utterances (p<.05) and received less attentive responding from GPS (p<.05). • Consultations low in mutual understanding were more reactive than consultations high in mutual understanding (p=.05) • No difference in GP's behaviour on mutual understanding across race.
Siminoff et al. (2006)	U.S.	Cross sectional/ Audiotapes	**405 cancer patients** • White patient (n=325) • Non-white (n=80) **58 physicians** • White (n=39) • Non-white (n=19)	RIAS coded audiotapes. Communication behaviours were divided in to physician and patient communication behaviour. **Physician communication behaviour:** • Biomedical issues • Psychosocial issues • Queries • Relationship building • Emotional status • Relevant information gathering **Patient communication behaviour:** • Communicating biomedical or psychosocial information • Number of questions asked • Relationship building • Engages in discussions of emotional status • Patient pro-activeness	**Objective:** Examine patients' characteristics on physician-patient communication patterns. **Findings:** • Overall 65% of utterances were made by the physician. • White patients provided more biomedical information to their physician than non-white (median= 88.0, p<.05). • Younger patients, and white patients, who had high school education and a medium or high income asked more questions. • Physicians provided more biomedical information to younger patients, white patients and better educated patients. • Physicians provided more psychosocial counselling and education to white patients (p<.01) and to high and middle income patients (p<.05). • Physicians asked more questions about patients' disease and medical history to non-white patients (p<.05), less educated (p<.01) and low income patients (p<.01). • White (p<.05), younger (p<.05) and more educated patients (p<.05) experienced more emotional utterances from physicians. • Patients' relationship building utterances differed by age (p<.01) education (p<.01) and income (p<.01). Whereas physicians relationship building behaviour was significantly predicted by race (OR=2.19, 95% CI 1.27-3.77; p<.01) and type of practice (OR= 0.39, 95% CI .16-.96; p<.05).
Sleath et al. (2003)	U.S.	Cross sectional / Audiotapes	**98 depressed patients** • Hispanic patients (n=55) • Non-Hispanic white (n=43) • Females (n=70)	Communication was characterised as: • Discussion about anti-depressants • Number of different types of information physicians gave	**Objective:** How Hispanic ethnicity influenced physician-patient communication about antidepressants. **Findings:** • None of the patients' or physicians' characteristics

			• Patients who saw physicians who were the same ethnicity (n=43) **25 physicians** • Hispanic (n=6) • Non-Hispanic white (n=19) • Females (n=13)	• The number of questions the physician asked • The number of different types of information the patient stated • The number of questions the patients asked	significantly influenced whether patients prescribed anti-depressants discussed anti-depressants with physicians. • Non-Hispanic white patients were significantly more likely to be given information about their antidepressants than Hispanic patients. • Physicians were significantly more likely to ask patients who were the same ethnicity as themselves more questions about antidepressants.
Vaccaro & Huffman (2012)	U.S.	Cross sectional/ Patient survey 2007-2008	**654 diabetic patients** • Black non-Hispanic (n=223) • Mexican American (n=131) • White non-Hispanic (n=300)	Communication was characterised as: • Medical advice given • Goals given • Diabetes education given	**Objective:** Examine the relationship between medical advice given, health insurance and health behaviour of individuals across race. **Findings:** • Differences in reported medical advice given were found. Black non-Hispanic were more likely than white non-Hispanic to report being told to reduce fat or calories [OR=1.83(1.16, 2.88), p=0.01]. • Black non-Hispanic was twice likely to report receiving diabetes education than white non-Hispanic (OR=2.29 [1.36, 3.85], p=0.00). • Receiving diabetic education increased the likelihood of engaging in self-management behaviour.
Yanez et al. (2012)	U.S.	Cohort study/ Questionnaire data collected at 6 months & 18 months	**494 breast cancer patients** • White women (n=168) • Latina women (n=326)	Communication characterised as: • Patient-reported confidence in their ability to communicate with physician • Patient reported physician adequacy in decision making	**Objective:** Factors influencing treatment decision making among Latina and non-Latina whites. **Findings:** • Latinas reported worse quality of communication relative to white patients in all communication categories.

Appendix D: Author Guidelines

http://www.elsevier.com/journals/patient-education-and-counseling/0738-3991/guide-for-authors

Patient Education and Counseling is an interdisciplinary, international journal for patient education and health promotion researchers, managers, physicians, nurses and other health care providers. The journal seeks to explore and elucidate educational, counseling and communication models in health care. Its aim is to provide a forum for fundamental as well as applied research, and to promote the study of the delivery of patient education, counseling, and health promotion services, including training models and organizational issues in improving communication between providers and patients.

Patient Education and Counseling is the official journal of the European Association for Communication in Healthcare (EACH) and the American Academy on Communication in Healthcare (AACH).

Definitions
Patient education is defined as a planned learning experience using a combination of methods such as teaching, counseling, and behavior modification techniques which influence patients' knowledge and health and illness behavior. Patient counseling is an individualized process involving guidance and collaborative problem-solving to help the patient to better manage the health problem. Patient education and counseling involve an interactive process which assists patients to participate actively in their health care. Clinical health promotion is a part of the patient education and counseling defined as that which predisposes, enables, and reinforces patients to take greater control of the non-medical determinants of their own health.

Submission of Manuscripts
The journal welcomes unsolicited manuscripts related to the field of patient education, counseling, clinical health promotion and communication in health care.
Patient Education and Counseling uses an online, electronic submission system. By accessing the website http://ees.elsevier.com/pec you will be guided stepwise through the creation and uploading of the various files. When submitting a manuscript to Elsevier Editorial System, authors need to provide an electronic version of their manuscript. Authors may send queries concerning the submission process, manuscript status, or journal procedures to the Editorial Office. Once the uploading is done, the system automatically generates an electronic (PDF) proof, which is then used for reviewing. All correspondence, including the Editor's decision and request for revisions, will be by e-mail.

Rejection rate
The journal receives an increasing number of submissions, with papers now evaluated on the basis of novelty and relevance as well as quality. The current rejection rate is in excess of 60%; this rate is expected to continue to increase. All papers are initially evaluated before proceeding to peer review; the journal aims to promptly inform authors whose papers do not proceed to the peer review stage.

Manuscript Categories

During online submission, the author can select a category from the following list: Review, Original Article, Educational or Counseling Model, Short Communication, Book Review or Letter to the Editor, Reflective practice or Medical Education. The type of manuscript should be indicated in the cover letter.

Original Articles - Preference is given to empirical research which examines such topics as adherence to therapeutic regimens, provider-patient communication, patient participation in health care, degree of social support, decision-making skills, anxiety, physiological changes, or health/functional status (maximum 4000 words not including references and tables). Both descriptive and intervention studies are acceptable.**Review Articles (Current Perspectives)** - In-depth reviews of the empirical research in one facet of the patient education and counseling including an analytical discussion of contemporary issues and controversies in patient education and counseling (maximum 5000 words not including references and tables).

Educational Model of Health Care - Case studies of innovative programs which exemplify the educational model of health care, for example, self-care groups, patient advocacy efforts, medication self administration programs and co-operative care units (maximum 2000 words not including references and tables).

Short Communications in any of the above categories will also be considered (maximum 1500 words not including references and tables).

Reflective practice - The Reflective Practice section includes papers about personal or professional experiences that provide a lesson applicable to caring, humanism, and relationship in health care. We welcome unsolicited manuscripts. No abstract is needed. No (section) headings, no numbering. Maximum 1500 words. First name and surname of the author and his/her institution affiliation address, telephone and fax number and e-mail address where the corresponding author can be contacted, title of the papers and text. Submissions will be peer-reviewed by two reviewers.

All authors must include one of these two statements at the end of their manuscript:

(1)" I confirm all patient/personal identifiers have been removed or disguised so the patient/person(s) described are not identifiable and cannot be identified through the details of the story."

OR

(2) " I confirm that the patient/person(s) have read this manuscript and given their permission for it to be published in PEC".

For further information on the Reflective Practice section see: Hatem D, Rider EA. Sharing stories: narrative medicine in an evidence-based world. Patient Education and Counseling 2004; 54:251-253.
Medical Education - Articles on medical education focus on educational efforts that target experiences, programmes and educational research on the teaching/training and evaluation of interpersonal/communication skills of health care providers and their attitudes and skills needed for optimal communication.

Manuscript Organization

Manuscripts should be organized as follows:

Title page, Abstract, 1. Introduction, 2. Methods, 3. Results, 4. Discussion and Conclusion, References, Legends.

Keep text, graphics and tables as separate files - do not import the figures and tables into the text file. Tables and Figures should be uploaded as separate table files and separate figure files. Acknowledgments for technical assistance should be indicated on the title page. Financial Support and any conflict of interest should be indicated in the acknowledgments. All articles and reviews must have a structured abstract not exceeding 150-200 words and appropriate keywords. Abstracts should adhere to the following format: **Objective, Methods, Results, Conclusion, Practice Implications.**

Articles must be in electronic format (double-spaced).

The title page should include a concise and **informative title, first name and surname of the first author and his/her institution affiliation address. Please also provide an address, telephone and fax number and e-mail address where the corresponding author can be contacted. For co-authors, mention only first name and surname of their institution affiliation, but no address.**

Footnotes to the text should be avoided.

Discussion and Conclusion should be headed as one section and divided into three parts. Example: 4. Discussion and Conclusion, 4.1. Discussion, 4.2. Conclusion. 4.3 Practice Implications

Practice Implications

Articles should include a paragraph or paragraphs entitled 'Practice Implications' as part of the discussion and conclusion, which outlines the implications for practice suggested by the study. Authors should take care that these implications follow closely from the data presented, rather than from other literature. In the event that an article presents very preliminary data or conclusions, these paragraphs may be omitted.

References

Reference citations should be numbered consecutively throughout using Arabic numerals in parentheses or square brackets (not superscripts). References should be double-spaced and start on a separate page. References should conform to the system used in Uniform Requirements for Manuscripts Submitted to Biomedical Journals (Brit Med J 1991;302:338-41; N Engl J Med 1991;324:424-8), using standard abbreviations of the journal titles cited in Current Contents.

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Note All authors' names should be listed. Issue numbers should not be included.

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- fourth level (if really necessary), not numbered, paragraph indent, runs onto text.

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Appendix E: Case Vignettes

Buddley-Salterton Primary Care NHS Trust

Dr Alison Wyre
The Surgery
High Street, Buddley-Salterton
Warrwickshire WK23 4CA

Dr Andrei Wittowksi
Consultant Psychiatrist
Three Countries Mental Health Resource Centre
Stoke Road
Buddley-Salterton
WK23 5DF

Dear Dr Wittowski

Re: Kwami Achapong   (dob 23/10/1975)

I would be delighted if you could see this 32 year old, black African man who is married with two children.

During the last three days, Mr Achapong has stopped eating and has said very little. About 1 year ago Mr Achapong had started to become increasingly withdrawn and preoccupied, becoming less interested in his work and his children. Most of the time Mr Achapong would sit upstairs on his own, though on occasion he would become excitable and leave the house, sometimes not returning for several hours. During the last month Mr Achapong has started to express ideas which his wife finds strange and difficult to understand.

When I saw Mr Achapong today, he was initially reluctant to talk about his experiences but after a while he became more relaxed and said that he felt that a religious sect was putting thoughts into his mind. He also reports having heard members of the sect talking about him as a potential new member though he had never seen them.

According to Mr *Achapong*'s wife, he has had no previous psychiatric problems. Furthermore, he doesn't take street drugs, drinks very little and has had no major operations since having his tonsils removed when he was 12 years old. Mr *Achapong* has two brothers, one older and one younger than him, neither have had psychiatric problems nor have any other members of his immediate family except Mr *Achapong*'s grandmother who received psychiatric treatment but no-one could remember for what reason.

Mr *Achapong* did not go to school until he was seven as he was described as a "delicate" child who was slow in learning to speak properly. When Mr *Achapong* was 8 years old his uncle, of whom he was very fond, unexpectedly died. Mr *Achapong* was considered a very stubborn child who spent a lot of time on his own. As a teenager he lacked self-confidence and considered himself as ugly to look at. Until recently Mr *Achapong* was self-employed. His small business, however, was not doing well and as a result he had a few problems paying bills and the mortgage. Mr *Achapong* has been married for 5 years but according to his wife they "always argued with each other".

I would be delighted if you could offer this gentleman an appointment.
Best wishes

Dr Alison Wyre (GP)

Appendix E continued

Dr Alison Wyre
The Surgery
High Street, Buddley-Salterton
Warrwickshire WK23 4CA

Dr Andrei Wittowksi
Consultant Psychiatrist
Three Countries Mental Health Resource Centre
Stoke Road
Buddley-Salterton
WK23 5DF

Dear Dr Wittowski

Thomas Wilson   (dob 23/10/1975)

I would be delighted if you could see this 32 year old, white British man who is married with two children.

During the last three days, Mr Wilson has stopped eating and has said very little. About 1 year ago Mr Wilson had started to become increasingly withdrawn and preoccupied, becoming less interested in his work and his children. Most of the time Mr Wilson would sit upstairs on his own, though on occasion he would become excitable and leave the house, sometimes not returning for several hours. During the last month Mr Wilson has started to express ideas which his wife finds strange and difficult to understand.

When I saw Mr Wilson today, he was initially reluctant to talk about his experiences but after a while he became more relaxed and said that he felt that a religious sect was putting thoughts into his mind. He also reports having heard members of the sect talking about him as a potential new member though he had never seen them.

According to Mr *Wilson*'s wife, he has had no previous psychiatric problems. Furthermore, he doesn't take street drugs, drinks very little and has had no major operations since having his tonsils removed when he was 12 years old. Mr *Wilson* has two brothers, one older and one younger than him, neither have had psychiatric problems nor have any other members of his immediate family except Mr Wilson's grandmother who received psychiatric treatment but no-one could remember for what reason.

Mr *Wilson* did not go to school until he was seven as he was described as a ''delicate'' child who was slow in learning to speak properly. When Mr *Wilson* was 8 years old his uncle, of whom he was very fond, unexpectedly died. Mr *Wilson* was considered a very stubborn child who spent a lot of time on his own. As a teenager he lacked self-confidence and considered himself as ugly to look at. Until recently Mr *Wilson* was self-employed. His small business, however, was not doing well and as a result he had a few problems paying bills and the mortgage. Mr *Wilson* has been married for 5 years but according to his wife they ''always argued with each other''.

I would be delighted if you could offer this gentleman an appointment.
Best wishes

Dr Alison Wyre (GP)

Appendix F: Demographic Information

Student number (Found on Library Card)		
E-mail address		
Gender		
Age		
Ethnicity (please tick)	White – British	Asian or Asian British – Bangladeshi
	White – Irish	Chinese
	White – Scottish	Other Asian background
	Irish Traveller	
	Other white background	Mixed – White and Black Caribbean
		Mixed – White and Black African
	Black or Black British - Caribbean	Mixed – White and Asian
	Black or Black British – African	Other Mixed background
	Other Black background	
		Other Ethnic background
	Asian or Asian British – Indian	
	Asian or Asian British – Pakistani	Prefer not to say

Appendix G: Previous Contact

Please tick **one** box beside the statement which best describes you:

	I have gained prior insight into mental illness through knowing a friend or relative with a mental illness diagnosis
	I have gained prior knowledge and experience of mental illness within an occupational/clinical capacity
	I have had limited or no direct contact with anyone diagnosed with a mental illness

Appendix H: Implicit Association Test Stimulus

Faces students were presented with
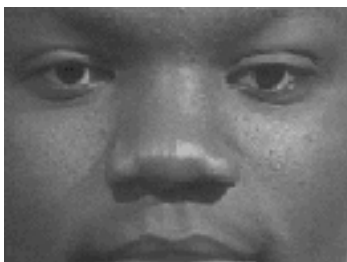
BME faces   Non-BME faces
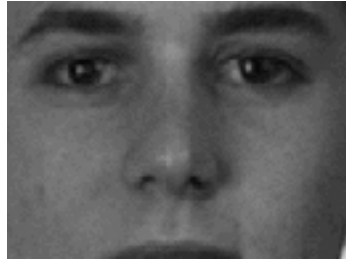
Appendix H continued

<u>List of words students were presented with</u>

Positive words	Negative words
• **"Marvellous"**	• **"Tragic"**
• **"Superb"**	• **"Horrible"**
• **"Pleasure"**	• **"Agony"**
• **"Beautiful"**	• **"Painful"**
• **"Joyful"**	• **"Terrible"**
• **"Glorious"**	• **"Awful"**
• **"Lovely"**	• **"Humiliate"**
• **"Wonderful"**	• **"Nasty"**

Appendix I: Explicit Racial Bias Scale

Please tick **<u>one</u>** box beside the statement which best describes how you feel:

	I strongly prefer people with light skin to people with dark skin
	I moderately prefer people with light skin to people with dark skin
	I slightly prefer people with light skin to people with dark skin
	I prefer people with light skin and people with dark skin equally
	I slightly prefer people with dark skin to people with light skin
	I moderately prefer people with dark skin to people with light skin
	I strongly prefer people with dark skin to people with light skin

Appendix J: Devaluation and Discrimination Questionnaire
(Perceived Stigma in Others)

This questionnaire is designed to assess your personal views on the nature of mental health problems and what we should do to help people. There are no right or wrong answers – just your views.

Please read each of the following statements and rate the extent to which you believe each statement best describes the feelings of **most people** in relation to the mentally ill.

Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
1	1	2	3	4	6

1.	Most people would willingly accept someone who has received mental health treatment to be their friend	
2.	Most people believe that a person who has received mental health treatment is just as intelligent as the average person	
3.	Most people believe that someone who has received mental health treatment is just as trustworthy as the average person	
4.	Most people would accept someone who has fully recovered from a mental illness as a teacher of young children in a public school	
5.	Most people feel that receiving mental health treatment is a sign of personal failure	
6.	Most people would not hire someone who has received mental health treatment to take care of their children, even if he or she has been well for some time	
7.	Most people think less of a person who has received mental health treatment	
8.	Most employers will hire someone who has received mental health treatment if he or she is qualified for the job	
9.	Most employers will pass over the application of someone who has received mental health treatment in favour of another applicant	
10.	Most people in my community would treat someone who has received mental health treatment just as they would treat anyone	
11.	Most young adults would be reluctant to date someone who has been hospitalised for a serious mental disorder	
12.	Once they know a person had received mental health treatment, most people will take that person's opinions less seriously	

Appendix K: Social Distance Scale

Please read each of the following statements and rate the extent to which you believe each statement best describes your feelings in the box to the right of the statement.

Definitely Willing	Probably Willing	Probably Unwilling	Definitely Unwilling
0	1	2	3

1.	How would you feel about renting a room to someone with a mental illness?	
2.	How about as a worker on the same job as someone with a mental illness?	
3.	How would you feel about having someone with a mental illness as a neighbour?	
4.	How about as the carer of your children for a couple of hours?	
5.	How about having your children marry someone with a mental illness?	
6.	How would you feel about introducing someone with a mental illness to a friend of the opposite sex that you were friendly with?	
7.	How would you feel about recommending someone with a mental illness for a job working for a friend of yours?	

Appendix L: Models of Mental Illness Questionnaire

Please read each statement carefully and using the -3 to +3 scale, after each statement write a number to indicate how much you agree or disagree with the statement.

-3	-2	-1	0	1	2	3
totally disagree	*very much disagree*	*slightly disagree*	*neutral*	*slightly agree*	*very much agree*	*totally agree*

Diagnosis / definition

1.	Mental disorder is an illness just like a physical illness	
2.	Mental illness is a response to a stressful environment	
3.	Mental illness is a response to traumatic or distressing early experiences	
4.	Mental illness is a product of the way in which a person thinks about themselves and the world	

Interpretation of behaviour

5.	The problems and behaviours of a person with mental disorder are symptoms of underlying illnesses	
6.	The problems and behaviours of a person with mental illness indicate a person's economic, social and cultural status	
7.	The problems and behaviours of a person with mental illness indicate a person's traumatic or distressing early experiences	
8.	The problems and behaviours of a person with mental illness indicate the way in which a person thinks about themselves and the world	

Causes

9.	Mental illness is the result of genetic abnormalities	
10.	Mental illness is the result of physical or chemical changes in the brain	
11.	Mental illness is the result of a person's economic, social cultural status	
12.	Mental illness is the result of traumatic or distressing early experiences	
13.	Mental illness is the result of the way in which a person thinks about themselves and the world	

How does A affect B?

14.	Physical or chemical changes in the brain are affected by genetic abnormalities	
15.	Physical or chemical changes in the brain are affected by a person's economic, social and cultural status	

-3	-2	-1	0	1	2	3
totally disagree	*very much disagree*	*slightly disagree*	*neutral*	*slightly agree*	*very much agree*	*totally agree*

16.	Physical or chemical changes in the brain are affected by traumatic or distressing early experiences	
17.	The way in which a person thinks about themselves and the world is affected by genetic abnormalities	
18.	The way in which a person thinks about themselves and the world is affected by physical or chemical changes in the brain	
19.	The way in which a person thinks about themselves and the world is affected by a person's economic, social and cultural status	
20.	The way in which a person thinks about themselves and the world is affected by traumatic or distressing early experiences	

Treatment

21.	Mental illness is best addressed using medical procedures (drugs and other interventions)	
22.	Mental illness is best addressed by changing a person's economic, social and cultural status	
23.	Mental illness is best addressed using psychotherapy to overcome the consequences of traumatic or distressing early experiences	
24.	Mental illness is best addressed by intervening on the way in which a person thinks about themselves and the world with techniques like cognitive behavioural therapy (CBT)	

Recovery

25.	Recovery from mental illness depends on using medical procedures (drugs and other interventions) to control the symptoms	
26.	Recovery from mental illness depends on improving a person's economic, social and cultural status	
27.	Recovery from mental illness depends on the person's resilience in the face of traumatic or distressing experiences	
28.	Recovery from mental illness depends on the person's ability to challenge and change the way in which they think about themselves and the world	
29.	Recovery from mental illness is very different for different individuals	

-3	-2	-1	0	1	2	3
totally disagree	very much disagree	slightly disagree	neutral	slightly agree	very much agree	totally agree

Rights of people with mental illness

30.	People with mental illness have a right not be criticised for their problems, a right to be excused from social demands (such as being offered incapacity benefit) and a right to receive sympathy for their illnesses	
31.	People with mental illness have a right to receive help and support to improve their economic, social and cultural status	
32.	People with mental illness have a right to protection from abuse and trauma	
33.	People with mental illness have a right to receive therapy	

Duties of people with mental illness

34.	People with mental illness should cooperate with any medical treatment prescribed	
35.	People with mental illness should cooperate with any social help offered	
36.	People with mental illness should take some responsibility for learning to deal with their problems	
37.	People with mental illness should be prepared to be open-minded and challenge the ways in which they think about themselves and the world	

Rights of society

38.	Society has a right to compel people with mental illness to receive medical care if they are at risk of harming themselves or others	
39.	Society has few rights over people with mental illness	
40.	Society has a right to make decisions on behalf of people with mental illness if they cannot make decisions for themselves	

Duties of society

41.	Society has a duty to provide proper medical care for people with mental illness	
42.	Society has a duty to improve people's economic, social and cultural status	
43.	Society has a duty to protect people from trauma and abuse	
44.	Society has a duty to provide proper psychological therapies for people with mental illness	
45.	Society has a duty to understand and respect the views of people with mental illness	

Appendix M: Colombo et al. (2003) Models of Mental Illness

Definitions of the 6 models of mental disorder

Questions addressed	Models/elements	Medical (organic)	Social (stresses)	Cognitive-behavioural	Psycho-therapeutic	Family interactions	Conspiratorial
What is the nature of mental disorder?	Diagnosis/ definition	Physical health—illness continuum	Health/low stress-illness/ high-stress continuum	Normal-abnormal continuum	Continuum of emotional distress/ difficulties	Whole family is sick not just patient	Mental illness is a myth. A continuum of deviance-
	Interpretation of behaviour	Symptoms of illness are a rough guide to severity	Symptoms indicate degrees of stress	Taken at face value, seen as acceptable-not acceptable	Decode/interpret symbolically to give it meaning	Look at behaviour of all family members	Result of way person is expected to behave by others
	Labels	Based on a patient's collection of symptoms	Person is seen as a victim of social forces and not as ill	Not important. Should focus on actual problem behaviour	Discussions about labels hide the individual	Externalise an illness which is inherent in the family itself	Create the mental illness myth. Cause stigma, etc.
	Aetiology	Physiochemical changes in the brain. Genetic factors	Social and economic stress, cultural conflict, marginal status, etc.	Inappropriate learning, poor coping skills, etc.	Unusual/traumatic early experiences	Patient acts in response to family pressures	Mental illness is not something that is socially defined
What should be done about it?	Treatment	Medical and surgical procedures, drugs, etc.	Social change to reduce stress	Increase patient's responsibility for own behaviour	Long-term one-to-one therapy	Family therapy/ help and support	None. Aim to empower people
	Function of psychiatric hospital	To facilitate the care, treatment and cure of disease	A place of respite for those unable to cope	To provide training, OT, CBT	To maximise contact with psychotherapist	Not important. Whole family needs help	Controls those at risk to themselves or others
	Facilities in community	Work towards developing a seamless service between hospital and community care	To provide flexible/short stay homes for respite/ time out	To provide day hospitals offering training/ therapy	To provide short stay homes that provide therapy/counselling	Family training and support, centres	Not relevant to the description of this model
	Prognosis	Many symptoms can be controlled	Good if changes made at the social level	Partly depends on severity of learning problems	Depends on levels of ego strength, therapy may be long term	Good if services available for carers	Not relevant. Nothing considered to be wrong

Table continued

Questions addressed	Models/elements	Medical (organic)	Social (stresses)	Cognitive-behavioural	Psycho-therapeutic	Family interactions	Conspiratorial
How should the people involved behave towards each other?	Rights of the patient	To the sick role, given sympathy, not blamed for problem, etc.	To receive help and support as a victim of a stressful society	To leave hospital when behaviour acceptable	To be spared moral judgement for what is said or done	To expect whole family to see themselves as needing support	To privacy, personal freedom and same civil rights as anyone
	Duties of the patient	To co-operate and take medication. Learn medical definition of problem	To co-operate with any social help offered	To take some responsibility for learning to cope with their problems	To co-operate with therapist: understand their interpretation of the problem	Whole family has a duty to participate in therapy process	To recognise that their social obligations outside being deviant/ill
	Rights of society	To restrain those who are at risk of harming them-selves or others	Limited rights, society should be proactive in preventing stress	To restrain/ sanction those who break social rules	Not used in the description of this model	To help when families become dysfunctional	No right to politically define accept- able behaviour
	Duties of society	To be empathise and provide proper medical facilities for care	To acknowledge the problem and change so to reduce social stress	To provide places for their training and therapy	To build therapeutic partnerships with people to listen and respect their views as individuals	To provide facilities for dysfunctional families. To give carers more direct support	To respect the rights of individual and to tolerate difference

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Appendix N: Simulated Patients' Depression Scenario for the OSCE

Feeling bad' (10 mins)

- **Aims for the student:** To sensitively take a comprehensive history, which includes:
    - Exploring patient's presenting complaint of 'feeling bad'
    - Eliciting history of depressive symptoms and suicidal ideas
    - Reviewing physical systems

- **setting**
    - GP surgery

- **specific information:**
    - students will be asked to present this case in the next station

- **Patient Details:**
    - Alice/ Alex Harrison
    - Date of Birth: 12 December 1973

- **Opening statements:** pause for a few moments before responding
    - If student opens with 'How can I help you?': *'I don't know....I'm not sure if you can.'*
    - If student opens with: 'what seems to be the problem?': *'I don't know...I just feel really bad.'*
    - 'Tell me what's brought you here': *'I just feel really bad.'*

    - If then asked: 'tell me everything/ everything from the beginning/more about it': *'It's just everything.'*

    - If then asked: e.g. 'In what way' or 'what do you mean?': '*I don't know...just everything...[alternatives to swearing here]'*

Statements from patient can be vague, and difficult to articulate. Information should be given mainly in response to direct questions from the student.

What might help you is student making a statement/observation regarding how they perceive you are feeling (e.g. 'I can see that you're having difficulty talking right now' or 'it looks to me like you suffering') and/or expresses desire and intention to help you. You may, through the course of the consultation, become somewhat more alert and engaged if student is able to develop rapport.

- History of presenting complaint:
    - Started around New Year
    - Mood has been low for last 3-4 months
    - Worst in the morning, may be slightly better later afternoon
    - Having trouble sleeping
        - Difficulty getting to sleep
        - Waking in the middle of the night (4am) and lying awake
    - Not interested in cooking or meals: can't be bothered, not hungry
    - Have lost some weight (don't know how much)
    - Don't see friends, stopped answering the phone
    - Nothing you enjoy doing that you previously enjoyed
    - Trouble concentrating; can't follow a plot on TV or read a newspaper.
    - Sometimes find yourself crying for no good reason
    - Haven't got anything to be depressed about
- If asked specifically about how you feel about life, or what you are thinking in the middle of the night (this information should come out one bit at a time, reluctantly, as if you are afraid to put it into words):
    - You haven't done anything useful with your life
    - You feel useless
    - Sometimes feels like life not worth living
    - You don't feel guilty

If then asked for more information:
--'I don't know...it would just be easier if I'm not here'
--Wish that you could go to bed and not wake up
If then asked for more information:
--Sometimes do wish that you were dead
If then asked for more information:
--Have been thinking for the last week or so that death might be an option. **This is what has scared you into coming to talk to the doctor. Never had feelings like this before.**
If then asked if you have thought about taking your own life: 'No, I wouldn't do that, I'd never do that. I'm not seriously thinking about suicide.' No notes, no plans, not thought of how you might do it.

If asked about whether you 'would harm yourself?' you take that to mean cut yourself and say no.

You don't hear voices, imagine anything strange going on inside you, or think you have cancer or similar.

You haven't discussed how you are feeling with anyone so far.

Other History:
- Past Medical History: asthma as a child
- Medication History: nothing
- Social History- live alone, not drinking alcohol, not smoking, no recreational drugs. Occupation: biomedical engineer, working in the NHS. Recently completed a part-time PhD (handed in in December), in biocompatibility of ocular materials (worked every night for three years, hardly had a holiday in all that time, submitted the required minor revisions and should graduate in July). Struggling at work a bit recently, finding it hard to concentrate, took two days off in the last week as couldn't make the effort required to get out of bed.
- Family History-parents fine, retired early and live in Spain. Good relationship with them.
- Systems review: bowels open less often as you aren't eating much. Breathing and heart fine. Urine darker than normal as you aren't drinking much.

- Ideas, concerns and expectations;
  - Don't know what's wrong but can't go on feeling this bad
  - Hope that someone can help you
  - If student suggests to you a diagnosis of depression, you could agree with this as reasonable, although you have nothing to be depressed about, but if that's what it is and it can be treated, that would be good
  - You'd be happy to try antidepressants or anything else the doctor can advise

- Character, behaviour, appearance
  - Moving and speaking slower than normal with a pause before every answer, quiet, gazing mainly at floor rather than making eye contact, apparently experiencing 'psychic discomfort', sighing, possibly weepy. They are finding everything hard work and an effort but can respond to prompts. The patient is not psychotic, so they are not distracted/listening to voices/scared etc in appearance.
  - must be unkempt; clothes loose. No make-up/unshaven, hair untidy
  - Credit should be given to those students that put their notes to one side, focus on the patient and 'invest in the beginning'.
  - Some candidates may ask a full mental test score as part of their mental state examination. The patient would answer the first question and then question what they were doing ("This isn't what I am here for"). The more they ask, the more closed the patient would be.

Appendix O: Examiner's Marking Criteria for the OSCE

Station 25/26	Student No.
please do not write in the box below for office use only	

Please mark the relevant box for each component with a cross as shown #	Performed adequately and completely	Attempted but incomplete or inadequate	Not attempted or grossly incorrect
Introduces self to patient explains their role	@	@	@
Confirms personal details of patient (name, DOB)	@	@	@
Gains consent for interview	@		@
Elicits presenting complaint -			
- "just feeling really bad", "it's just everything", Low mood for 3 -4 months	@	@	@
Takes an appropriately focused history of the presenting complaint			
- Elicits cognitive symptoms of depression (not done anything useful with life, doesn't see friends, not interested in cooking, can't be bothered, find themselves crying)	@	@	@
- Elicits physical symptoms of depression (poor sleep, waking early in the morning, unable to get back to sleep, low motivation, poor appetite, weight loss, trouble concentrating)	@	@	@
- Asks about suicidal intent (thoughts about death may be an option, it would be 'easier if I was not here', but no intent or plans)	@	@	@
Takes an appropriately focused past medical history			
- Previously fit and well except asthma as a child - No previous psychiatric history	@	@	@
Takes an appropriately focused history of current / recent / over the counter medication and allergies			
- No medication taken / no allergies	@		@
Review of systems			
- Takes an appropriate review of systems	@	@	@
Takes an appropriately focused history of social and lifestyle factors			
- Employed as biomedical engineer, part time PhD - No time off or holidays working every night	@	@	@
- Not seeing friends - Parents live abroad Spain	@	@	@
Elicits alcohol/smoking and (illicit) drug history	@	@	@

	Excellent	Satisfactory	Borderline	Poor	Very poor
Responds to emotional cues with appropriate empathic statements/queries	@	@	@	@	@
Thoughtful use of language; e.g. positive, helpful, supportive; avoids jargon (see briefing)	@	@	@	@	@
Effective non-verbal behaviour (including unobtrusive note taking, effective use of silence)	@	@	@	@	@
Makes summarising statements that reflect what they understand from the patient's words, appearance and behaviour	@	@	@	@	@
Candidate's consulting style (structure & organisation)	@	@	@	@	@

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Appendix P: Data Collection Process

Pre-data collection: Participants were informed of the	Time point one: First teaching session	Information sheet and Consent form	Previous contact	Explicit attitudes	Perceived public stigma	Social distance	Models of mental illness	IAT score (on-line link to IAT sent after . .
Pre-post data collection: A reminder email of the study was	Time point two: Final teaching session	Information sheet and Consent form	Previous contact	Explicit attitudes	Perceived public stigma	Social distance	Models of mental illness	IAT score (reminder link sent to after . . .
Pre-Examination data collection: Students were reminded of the	Time point three: OSCE	Information sheet and consent form	OSCE : Clinical & Com Score					

Appendix Q: Information Sheet

UNIVERSITY OF
LIVERPOOL

Investigating the influence of attitudes on doctor-patient communication

You are being invited to participate in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask further questions if there is anything that you do not understand.
I would like to stress that you do not have to accept this invitation and should only agree to take part if you want to.

What is the purpose of the study?
Studies have identified that doctors' attitudes may influence their communication with patients. This study aims to explore the influence of attitudes on how doctors communicate with Black and Racial minority patients in mental health consultations.

Why have I been chosen to take part?
You have been invited to take part in to the study because the influence of attitudes on doctor-patient communication in mental health consultations is under researched, and the findings may contribute to future teaching.

Do I have to take part?
Participation is voluntary and you are free to withdraw at any time without giving any explanation and without incurring any negative consequences.

What will happen if I take part?
You will be asked to complete a paper-based questionnaire at the beginning of your 1st and 6th (final) psychiatry teaching session. This will take no longer than 10/15 minutes to complete in total. There will be sufficient time to complete the measure before the start of the teaching session. You will also be requested complete a web based task called the Implicit Association test (IAT). This will take approximately 10 minutes to complete.

In order to investigate the influence of attitudes on doctor-patient communication we will also ask for your consent to view and code the video of your 3rd year summative psychiatric OCSE.

Please note that all students will be videoed and no one will be allowed to view or code your video unless you give your consent. If you choose to consent the research team are the only personnel allowed to view the video, no University staff involved in your teaching or assessment will be allowed to view the videos.

This procedure has been agreed in consultation with the Clinical Skills teaching staff, and has been used successfully since 2007

Expenses
All participants will be automatically entered into a prize draw for reimbursement of their time with three £50 vouchers. Withdrawing from the study at anytime will not have an impact on your entry into the prize draw.

Are there any risks in taking part?
There are no perceived risks in participating in this study.

Are there any benefits in taking part?
It is important to note that this study is not part of any academic evaluation. Participants who participate in the study will benefit from being entered into a prize draw. However, the results of this study may help to enhance future teaching programmes.

What if I am unhappy or there is a problem?
If you are unhappy, or if there is a problem, please feel free to let the research team know by contacting the team via the contact details below and I/ we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Governance Officer on 0151 794 8290 (ethics@liv.ac.uk). When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

Will my participation be kept confidential?
Yes, at all times.

All the data files will be given random participant numbers to ensure anonymity, and the data will only be accessible to the research team. **No one involved in your teaching or assessment will be allowed access to the data.**

Will my taking part be covered by an insurance scheme?
Participants taking part in a University of Liverpool ethically approved study will have insurance cover.

What will happen to the results of the study?
We intend to submit the results of the investigation for publication and you will not be to be identified from any data submitted for publication.

What will happen if I want to stop taking part?
You can withdraw at anytime, without explanation and your data will be destroyed.

The Research Team
Lourina Ramsay, Clinical Psychology
Dr Ian Fletcher, Clinical Psychology
Prof. Peter Kinderman, Institute of Psychology, Health and Society

Who can I contact if I have further questions?
Dr. Ian Fletcher   E: XXX   T: XXX
Lourina Ramsay   E: XXX   T: XXX

Appendix R: Study Consent Form

CONSENT FORM

Title of Research Project:	Investigating the effects of attitudes towards on doctor-patient communication.
Researcher(s):	Lourina Ramsay Dr. Ian Fletcher Prof. Peter Kinderman

Please initial box

1. I confirm that I have read and have understood the information sheet dated _____ for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected.

3. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish.

4. I agree for my video recorded data of my summative OSCE to be made available to the researcher in order for it to be coded for clinical communication behaviours with simulated psychiatric patients.

5. I agree to take part in the above study.

_____   _____   _____
Participant Name   Date   Signature

_____   _____   _____
Researcher taking consent   Date   Signature

Contact details: Lourina Ramsay, Dr. Ian Fletcher, Prof. Peter Kinderman

Appendix S: Correlations between Study's Variables

Descriptive Statistics at Time One

	Mean	Std. Deviation	N
IAT	.39133	.386631	149
Racial Explicit Attitudes T1	3.99	.484	189
Social Distance T1	7.80	3.702	198
Public Stigma T1	40.18	4.423	200

Correlations at Time One

		IAT	Racial Explicit Attitudes T1	Social Distance T1	Public Stigma T1
IAT	Pearson Correlation	1	-.042	.097	-.066
	Sig. (2-tailed)		.701	.357	.531
	N	149	87	93	93
Racial Explicit Attitudes T1	Pearson Correlation	-.042	1	-.028	.044
	Sig. (2-tailed)	.701		.706	.550
	N	87	189	188	189
Social Distance T1	Pearson Correlation	.097	-.028	1	-.017
	Sig. (2-tailed)	.357	.706		.812
	N	93	188	198	198
Public Stigma T1	Pearson Correlation	-.066	.044	-.017	1
	Sig. (2-tailed)	.531	.550	.812	
	N	93	189	198	200

Descriptive Statistics at Time Two

	Mean	Std. Deviation	N
IAT	.39133	.386631	149
Racial Explicit Attitudes T2	3.96	.589	136
Social Distance T2	7.70	3.797	137
Public Stigma T2	40.45	4.886	140

Correlations at Time Two

		IAT	Racial Explicit Attitudes T2	Social Distance T2	Public Stigma T2
IAT	Pearson Correlation	1	-.050	-.019	-.049
	Sig. (2-tailed)		.697	.879	.702
	N	149	62	63	64
Racial Explicit Attitudes T2	Pearson Correlation	-.050	1	.084	.041
	Sig. (2-tailed)	.697		.343	.641
	N	62	136	131	134
Social Distance T2	Pearson Correlation	-.019	.084	1	-.032
	Sig. (2-tailed)	.879	.343		.712
	N	63	131	137	137
Public Stigma T2	Pearson Correlation	-.049	.041	-.032	1
	Sig. (2-tailed)	.702	.641	.712	
	N	64	134	137	140

Appendix T: Correlations between Models of Mental Illness and Study's Variables

Descriptive Statistics at Time One

	Mean	Std. Deviation	N
Psycho-social Factor T1	9.0769	7.28147	195
Biological Factor T1	4.3980	6.30301	196
Society's Duties Factor T1	9.7668	2.55207	193
Peoples' Rights Factor T1	5.3608	1.16232	194
IAT	.39133	.386631	149
Racial Explicit Attitudes T1	3.99	.484	189
Social Distance T1	7.80	3.702	198
Public Stigma T1	40.18	4.423	200

Correlations at Time One

		Psycho-social Factor T1	Biological Factor T1	Society's Duties Factor T1	Peoples' Rights Factor T1	IAT	Racial Explicit Attitudes T1	Social Distance T1	Public Stigma T1
Psycho-social Factor T1	Pearson Correlation	1	.266**	.016	-.006	.144	-.117	.186**	-.107
	Sig. (2-tailed)		.000	.822	.931	.172	.113	.009	.138
	N	195	195	191	192	92	186	194	195
Biological Factor T1	Pearson Correlation	.266**	1	-.012	-.026	.118	-.086	.066	-.110
	Sig. (2-tailed)	.000		.869	.720	.264	.240	.357	.124
	N	195	196	192	193	92	187	195	196
Society's Duties Factor T1	Pearson Correlation	.016	-.012	1	.615**	-.005	-.126	-.298**	-.044
	Sig. (2-tailed)	.822	.869		.000	.966	.087	.000	.540
	N	191	192	193	193	90	185	191	192
Peoples' Rights Factor T1	Pearson Correlation	-.006	-.026	.615**	1	.090	-.199**	-.323**	-.067
	Sig. (2-tailed)	.931	.720	.000		.395	.007	.000	.355
	N	192	193	193	194	91	185	192	193
IAT	Pearson Correlation	.144	.118	-.005	.090	1	-.042	.097	-.066
	Sig. (2-tailed)	.172	.264	.966	.395		.701	.357	.531
	N	92	92	90	91	149	87	93	93
Racial Explicit Attitudes T1	Pearson Correlation	-.117	-.086	-.126	-.199**	-.042	1	-.028	.044
	Sig. (2-tailed)	.113	.240	.087	.007	.701		.706	.550
	N	186	187	185	185	87	189	188	189
Social Distance T1	Pearson Correlation	.186**	.066	-.298**	-.323**	.097	-.028	1	-.017
	Sig. (2-tailed)	.009	.357	.000	.000	.357	.706		.812
	N	194	195	191	192	93	188	198	198
Public Stigma T1	Pearson Correlation	-.107	-.110	-.044	-.067	-.066	.044	-.017	1
	Sig. (2-tailed)	.138	.124	.540	.355	.531	.550	.812	
	N	195	196	192	193	93	189	198	200

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

Descriptive Statistics at Time Two

	Mean	Std. Deviation	N
Psycho-social Factor T2	11.5111	6.84897	135
Biological Factor T2	7.3750	5.83595	136
Society's Duties Factor T2	9.6045	2.84966	134
Peoples' Rights Factor T2	5.3433	1.37706	134
IAT	.39133	.386631	149
Racial Explicit Attitudes T2	3.96	.589	136
Social Distance T2	7.70	3.797	137
Public Stigma T2	40.45	4.886	140

Correlations at Time Two

		Psycho-social Factor T2	Biological Factor T2	Society's Duties Factor T2	Peoples' Rights Factor T2	IAT	Racial Explicit Attitudes T2	Social Distance T2	Public Stigma T2
Psycho-social Factor T2	Pearson Correlation	1	.461**	.196*	.278**	-.002	-.318**	.125	.124
	Sig. (2-tailed)		.000	.024	.001	.986	.000	.151	.150
	N	135	134	133	133	61	130	133	135
Biological Factor T2	Pearson Correlation	.461**	1	.069	.218*	-.009	-.246**	.000	-.034
	Sig. (2-tailed)	.000		.431	.012	.947	.005	.996	.697
	N	134	136	133	133	61	131	134	136
Society's Duties Factor T2	Pearson Correlation	.196*	.069	1	.602**	-.097	-.088	-.154	.213*
	Sig. (2-tailed)	.024	.431		.000	.459	.322	.077	.014
	N	133	133	134	134	61	129	132	134
Peoples' Rights Factor T2	Pearson Correlation	.278**	.218*	.602**	1	-.206	-.115	-.238**	.246**
	Sig. (2-tailed)	.001	.012	.000		.112	.195	.006	.004
	N	133	133	134	134	61	129	132	134
IAT	Pearson Correlation	-.002	-.009	-.097	-.206	1	-.050	-.019	-.049
	Sig. (2-tailed)	.986	.947	.459	.112		.697	.879	.702
	N	61	61	61	61	149	62	63	64
Racial Explicit Attitudes T2	Pearson Correlation	-.318**	-.246**	-.088	-.115	-.050	1	.084	.041
	Sig. (2-tailed)	.000	.005	.322	.195	.697		.343	.641
	N	130	131	129	129	62	136	131	134
Social Distance T2	Pearson Correlation	.125	.000	-.154	-.238**	-.019	.084	1	-.032
	Sig. (2-tailed)	.151	.996	.077	.006	.879	.343		.712
	N	133	134	132	132	63	131	137	137
Public Stigma T2	Pearson Correlation	.124	-.034	.213*	.246**	-.049	.041	-.032	1
	Sig. (2-tailed)	.150	.697	.014	.004	.702	.641	.712	
	N	135	136	134	134	64	134	137	140

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

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