

Exploring the relationship between social class, mental illness stigma and mental health literacy using British national survey data

Abstract

The relationship between social class and mental illness stigma has received little attention in recent years. At the same time, the concept of mental health literacy (MHL) has become an increasingly popular way to frame knowledge and understanding of mental health issues. British Social Attitudes survey data present an opportunity to unpack the relationships between these concepts and social class, an important task given continuing mental health inequalities. Regression analyses were undertaken which centred on depression and schizophrenia vignettes, with an asthma vignette used for comparison. The National Statistics Socio-economic Classification (NS-SEC), education and income were used as indicators of class. A number of interesting findings emerged. Overall, class variables showed a stronger relationship with mental health literacy than stigma. The relationship was gendered such that women with higher levels of education, especially those with a degree, had the lowest levels of stigma and highest levels of MHL. Interestingly, class showed more of an association with stigma for the asthma vignette than it did for both the depression and schizophrenia vignettes, suggesting that mental illness stigma needs to be contextualised alongside physical illness stigma. Education emerged as the key indicator of class, followed by the NS-SEC, with income effects being marginal. These findings have implications for targeting health promotion campaigns and increasing service use in order to reduce mental health inequalities.

Keywords

Social class; gender; interaction effects; mental illness stigma; mental health literacy; physical illness stigma.

Introduction

Stigma continues to be of central concern in the mental illness and help-seeking literature. The concept has been used to explain why disadvantaged groups such as ethnic minorities (Gary 2005), immigrants (Nadeem *et al.* 2007), and older patients (Palinkas *et al.* 2007) underuse mental health services. However, recent empirical work on the role of stigma in accounting for class disparities in the use of mental illness services (see e.g. Anderson *et al.* 2009) is lacking. At the same time, over the last ten to fifteen years, mental health literacy (MHL) has become an increasingly popular way of framing knowledge and understanding of mental health and illness (Jorm 1997). Examining MHL alongside stigma is useful because the negative stereotypes implicit in stigma involve distortions of knowledge and understanding. There do not appear to be any studies focussing explicitly on the links between MHL and class or related socioeconomic concepts. Furthermore, the importance of gender to mental health and illness and how it intersects the class structure (Rosenfield 2012) calls for an examination of how this interaction gives rise to particular levels of stigma, MHL, and help-seeking. Finally, another connection rarely considered is that between mental illness stigma and physical illness stigma. Class links with the latter could help to contextualise mental illness stigma and think about the extent to which it is a unique and specific phenomenon.

Mental illness stigma

Goffman originally described stigma as a process where an individual is marked out as different in a less desirable way and reduced to this attribute. Consequently, they are

reduced from being 'a whole and usual person to a tainted, discounted one' (1963:12). Stigma can become internalised, such that the person 'echoes this denial by finding that some of [their] attributes warrant it' (1962:19). Since Goffman's early exposition, the concept of stigma has often been used vaguely or indiscriminately, as noted by Prior *et al.* (2003) and Mak *et al.* (2007). A more useful approach is to systematically outline its various social psychological mechanisms and properties. For example, Link and Phelan delineate a three stage model of stigma. First the person is 'marked' out as different, then associated with undesirable characteristics, and then rejected and avoided (2010), echoing Goffman's analysis. A similar conceptualisation is provided by Corrigan and Watson, who divide stigma up into stereotypes (negative beliefs about a group), prejudice (agreement with the belief and/or an emotional reaction to it) and discrimination (behavioural response to this agreement/reaction) (2002). These models allow for differentiating stigma according to severity. Whilst marking and stereotypes are likely to be relatively common, we would expect discrimination to be less so. The stages of stigma can occur with or without a mental illness label. In the former case, a spoiled identity results from displaying weakness or emotional distress (i.e. symptoms) (Kovandžić *et al.* 2011). In the latter, the label itself – which might be a psychiatric diagnosis, the term 'mental illness', or some synonym or colloquialism (e.g. 'nuts') – has specific negative connotations associated with it, which are likely to have differential implications for service use. A distinction is also sometimes made between personal stigma, which is 'each individual's stereotypes and prejudices' (the aggregate of which is used to make inferences about the level of public stigma) and perceived public stigma, which is 'an individual's perception of public stigma' (Eisenberg *et al.* 2009:523). Lastly, it is also important to note that mental illness stigma can relate to a range of disorders, including the common mental disorders (CMDs) such as depression and

anxiety, and psychotic conditions – typically schizophrenia. Studies that do not specify a disorder unavoidably pick up stigma of both CMDs and psychotic disorders (Corrigan 2004). Similarly use of the term stigma in a general sense leads to conflation of its various subtypes.

Mental health literacy

Jorm and colleagues coined the term mental health literacy (MHL) in response to the concept of 'health literacy', which is 'the ability to gain access to, understand, and use information in ways which promote and maintain good health' (1997:166). By extension, they define MHL as 'knowledge and beliefs about mental disorders which aid their recognition, management or prevention' (1997:182). Recognition – or appraisal more generally – is not only fundamental to help-seeking behaviour, but also to how eligible people feel themselves to be for services during interactions with healthcare professionals (Dixon-Woods *et al.* 2006). As Jorm argues, 'detection of a mental disorder is greater if the patient presents his or her symptoms as reflecting a psychological problem ... and explicitly raises the problem with the GP' (2000:396-397). Indeed, Prior *et al.* argue that patients' fear of stigma is relatively unimportant to the disclosing of distress in the GP consultation compared to how they construct and recognise distress (2003).

The concept of MHL has been criticised for its implicit assumption that the dominant psychiatric framework is the gold standard of knowledge regarding mental health and treatments (Rogers and Pilgrim 2010). MHL seems to take mental illness as having a given, objective reality, without acknowledging that it is subject to social forces that influence how it is characterised and defined. Similar issues were raised in the 1970s debate between Gove and Scheff/Horwitz over labelling theory, in that the latter emphasised the role of social factors in influencing who gets labelled as having a mental disorder and the negative

consequences associated with having a label, whereas Gove argued that labelling mainly results from an underlying pathology and has mostly positive consequences in bringing people into treatment (Link and Phelan 2010). For present purposes, the focus is specifically on factors that precipitate service use, and in that sense the concept of MHL does useful work in outlining a framework of these factors.

Links with service use

Studies have found links between knowledge/recognition of mental disorders and intentions to seek help (Rüsch *et al.* 2011; Wright *et al.* 2007). However, people may avoid appraising themselves as emotionally distressed if doing so would pose a threat to their self-identity. This avoidance is likely to be acute amongst groups where being seen as resilient is central to identity, as with working-class men, for example. Similarly, help-seeking may be avoided in case it results in a diagnostic label, which can result in negative evaluations in the community, at work or from formal authorities – a process Corrigan and Wassel (2008) refer to as label avoidance. Corrigan and Rüsch's review found some evidence that stigma impedes help-seeking, though concluded that a 'clear and repeated link ... remains to be demonstrated' (2002:328). Similarly, Schomerus and Angermeyer concluded that many studies show an association between stigmatising attitudes and an intention to seek help, but proving links with actual help-seeking is much more difficult, mainly because help-seeking is a dynamic, complex process and not a one-time decision (2008). A recent systematic review of qualitative and quantitative studies on the impact of stigma on help-seeking (Clement *et al.* 2014) found a small consistent negative association between internalised (i.e. self) stigma and treatment stigma with help-seeking, which was partly supported by the

qualitative data. They also found that stigma had a disproportionate effect on help-seeking for men, young people, and ethnic minorities.

Links with class

Two classic studies examining class, stigma and service use argued that those from higher class backgrounds were more able to research and seek out formal treatment options (Hollingshead and Redlich 1958; Horwitz 1982). Thoits and Evenson (2008) have found recent support for this idea in the US context using national survey data. Golberstein *et al.* (2008) found that perceived stigma of mental health care was higher amongst students with lower socioeconomic status (SES) (2008), and Eisenberg *et al.* (2009) found that personal stigma of mental health treatment was higher amongst those from 'poorer' backgrounds, but there was no association with perceived public stigma. Data from 14 European countries showed that a university education predicted lower levels of self-stigma (Evans-Lacko *et al.* 2012). In the UK, The Department of Health *Attitudes to mental illness* report (2010) showed that those in the lowest occupation-based social grades were more likely to think that it is frightening to think of people with mental health problems living in residential neighbourhoods, that people with mental illness should not be given any responsibility, that a woman would be foolish to marry a man with mental illness, and that people with a history of mental illness should be excluded from office (2010). Martin *et al.* (2000) used vignette research to show that in the US context, those with higher SES were more likely to express a desire to avoid people described with various types of mental illness symptoms. In a review of 15 years' worth of public belief/attitude stigma research, Angermeyer and Dietrich (2006) stated that those with higher levels of education desired less distance from the 'mentally ill', and expressed more liberal views. Hall *et al.* found that the higher social classes were more

likely to identify vignettes describing depression and schizophrenia symptoms as mental illness (1993), and similarly Rüsç *et al.* (2012) found that those in higher 'social grade' occupations were more likely to regard psychiatric disorder labels as constituting mental illness. A recent study has suggested an association between MHL and education in young people (Furnham *et al.* 2013), and studies on the related concept of health literacy have found associations with both occupation and education (Bostock and Steptoe 2012; Mõttus *et al.* 2014). The fact that women are often found to have lower levels of stigma (Angermeyer and Dietrich 2006; DoH 2010) and higher levels of MHL (Hall *et al.* 1993; Rüsç *et al.* 2012; Swami 2012) suggests that there may be interaction effects between gender and class.

Although the evidence is not clear-cut, it suggests that various types of stigma are higher, and that MHL is lower, amongst those in lower class positions, as indicated by various socioeconomic factors. This paper seeks to test whether these patterns hold in the contemporary British context, and also considers the effects of the gendered nature of the class structure. It compares mental illness stigma to physical illness stigma, and lastly, explores whether class factors are associated with preferences for seeking professional help.

Methods

Sample and measures

Data from version A of the 2007 British Social Attitudes (BSA) survey were analysed (n=1042). The BSA is designed to be representative of the British adult population. The survey measured respondents' National Statistics Socio-economic Classification (NS-SEC), which was used in the present analysis because it is theoretically relevant to studying group processes implicated in mental health. The NS-SEC shows 'significant social class differences in health' (Chandola and Jenkinson 2000:182), and 'captures basic structuring principles of

society, such as income, housing and consumption, which condition and shape the lives and the life chances of people in different social classes' (2000:188). The five category version was used as it provides a reasonable break down of the occupational class structure whilst allowing for a sufficiently powered analysis. As a robustness check, the models which showed the highest SES associations were reproduced using the seven category NS-SEC. In each case, the amount of association the NS-SEC explained was marginally smaller (analyses available on request). Education (highest level) and income (household, banded) were also used as socioeconomic measures because, following Bourdieu, they are key structuring variables imbued with differing configurations of capital that are associated with certain dispositions towards the social world (1990). Although there is overlap between these indicators, we would nonetheless expect them to capture different aspects of social class. I use the term SES to describe the measures used in this paper, but follow Coburn (2009) in acknowledging that SES is a ranking of individuals according to occupation, education, etc., but is itself a result of class forces. Table 1 describes the sample characteristics. For further information on the BSA sample, see (Park *et al.* 2008).

[Table 1 here]

The survey design randomly allocated respondents to a depression, schizophrenia or asthma vignette. The sex and ethnicity of the person described in the vignette were randomly varied. Respondents were asked a range of questions about the vignette relating to different types of stigma (see Table 2): 1) *Perceived public stigma* questions ascertained respondents' agreement that the person in the vignette would be likely to experience various kinds of stigma. 2) *Perceived treatment stigma* questions similarly asked whether the person in the vignette would be likely to experience stigma for getting treatment. 3) *Personal*

stereotypical/prejudicial stigma questions asked about views on what character attributes the person in the vignette has, whether they are likely to be violent, and how they would make the respondent feel. 4) *Personal discriminatory stigma* questions attempted to measure whether respondents would behaviourally discriminate against the person in the vignette, by allowing them to care for their children, for example. Questions for each of the four types of stigma were summed. Summed scores were approximately normally distributed and gave good Cronbach alpha values (see Table 2). Mental health literacy questions focused on the perceived severity of the vignette, what the person in the vignette was experiencing, and psychiatric labels. Finally, as a measure of preferences for seeking professional help, respondents were asked on a ten point scale how important they thought it was that the person in the vignette go to three types of healthcare professional: a general medical doctor, mental health professional, and psychiatrist.

[Table 2 here]

Analysis

Ordinary Least Squares (OLS) regression was used for all models except for analysis of a question on whether respondents ‘correctly’ diagnosed the vignette, making binary logistic regression suitable. Parametric analysis of Likert scales is statistically appropriate, despite numerous misgivings in the literature (Norman 2010). Nonetheless, ordered logistic regression models were specified as a robustness check. Despite failing the parallel lines assumption (O’Connell 2006), the coefficients, whilst in different units, were substantively very similar (analyses available on request). Hierarchical (blockwise) entry was used with socioeconomic variables (NS-SEC, education, income) entered in the first block, as they were of primary interest, and gender and age (including a squared term to capture non-linear

effects) in the second block, in order to assess the relative importance of the social class variables and to control for confounding. Interaction effects between each of the SES variables and gender were specified, and were tested for in separate models by entering them in a single block alongside main effects. Adjusted R^2 values were used to correct for variance explained by chance and were calculated for OLS models to give a measure of how much variance SES variables explained in the dependent variable (reported as 'SES Adj. R^2 ') and how much variance the full models including age and gender explained. Missing cases were treated listwise. Supplied population weights were applied.

Results

Mental illness stigma

Table 3 shows associations between class as indicated by SES measures and stigma for the two mental illness vignettes and asthma comparison vignette.

[Table 3 here]

Starting with the depression vignette, there was no evidence of any SES association. Women however had lower levels of the two types of personal stigma. There was some interaction between gender and having a degree: women with a degree had the lowest levels of two of the types of stigma. Models for the schizophrenia vignette showed some association with SES variables, which explained 3.5% of the variance in perceived public stigma, and around 8% in perceived treatment stigma and personal stereotypical/prejudicial stigma. However, the main effect coefficients were only significant for perceived treatment stigma, with those in the Employers in small organisations and Managerial and professional categories having lower levels of stigma for these subtypes. In addition, there were interaction effects for this

model, with women in higher NS-SEC categories having higher levels of stigma, and having lower levels of stigma if they had any level of qualification compared to having none.

For the asthma vignette models, SES variables accounted for approximately 3% to 7% of the variance in the four measures of stigma. The NS-SEC coefficients were mostly non-significant. Education however showed consistent associations; those with a degree had lower levels of three of the four types of stigma compared to those with no formal qualifications, and those with an A-level had lower levels of personal discriminatory stigma. Age and gender showed lower associations for the asthma vignette compared to the other vignettes, generally explaining little added variance over and above SES variables, comparative to the models for the depression and schizophrenia vignettes. In terms of main effect coefficients, women perceived lower levels of perceived public stigma, though no interaction effects were significant. Overall, these models suggest that there is generally more of a class association for asthma symptoms compared to mental illness symptoms.

Mental health literacy

Table 4 presents questions relating to mental health literacy (MHL), since they tap into respondents' views about what symptoms constitute mental illness or normal functioning, their perceptions of the severity of these symptoms, and psychiatric diagnoses.

[Table 4 here]

In contrast to mental illness stigma, MHL showed relatively consistent associations with SES variables. Starting again with the depression vignette, three of the five MHL models showed an SES association, with those with higher SES having higher levels of MHL. SES variables explained most in terms of thinking the vignette to be a case of the normal ups and downs of

life and thinking that the person in the vignette is experiencing mental illness. Education was the main explanatory factor. With respect to diagnosis of the vignette, the odds of those with a degree diagnosing the vignette 'correctly' as depression were four times higher than for those with no formal qualifications. There was also an interaction effect with gender, with the education effect being pronounced for women. Unexpectedly, the NS-SEC coefficients for the 'experiencing a mental illness' question were in the opposite direction to the education coefficients. There was no association for thinking the vignette to be a case of physical illness or judging it to be serious.

Education associations were also observed for the schizophrenia vignette. The normal ups and downs coefficients were almost identical to those for the depression vignette; respondents with higher levels of education thought the vignette to be less likely a case of normal ups and downs. However, associations with education for the other MHL questions were negligible. There was some interaction between the NS-SEC and gender for thinking the vignette to be a case of physical illness, with women in higher categories thinking this to be less likely.

In contrast to the stigma models, asthma showed small and inconsistent SES associations. The exception was that those with lower incomes regarded the vignette as more serious. Overall, analysis of MHL variables suggests that they show more of a class association than stigma variables do.

Links with help-seeking preferences

The questions asking respondents how important they thought it was that the person in the vignette seek help from three types of healthcare professional showed negligible and inconsistent associations with class factors. For the depression vignette, adj. R^2 values for the

three types of healthcare professional were $<.01$, with no significant SES coefficients. For schizophrenia vignette, adj. R^2 values for importance of seeing a mental health professional, general medical doctor and psychiatrist were .041, .024 and .013 respectively. Those in the Managerial and professional NS-SEC category thought it less important that the person in the vignette go to a mental health professional (95% CI -1.50 – -.16), and those with a GCSE thought it more important that the person go to a psychiatrist (95% CI .080 – 1.038). Thus, the data showed no clear class differences in preferences for professional help-seeking. It may be that the question was not sensitive enough to detect class differences or that it bears little relation to real-world help-seeking behaviours.

Discussion

This analysis has highlighted the complex and nuanced nature of the relationship between class, mental illness stigma and MHL by unpacking these concepts into their constituent parts. Mental illness stigma and MHL comprise various types of knowledge, understanding, perceptions, stereotypes, prejudices, and discrimination. In turn, different mechanisms link these with socioeconomic factors flowing from class positions. This analysis has also examined the interaction between the class structure and gender, and considered mental illness in comparison with physical illness stigma.

Four main types of stigma were tested. There was no evidence of a class association for the depression vignette, though women with a degree had lower levels of two of the types of stigma. In some respects this finding stands in contrast to the earlier cited studies which found links between stigma and class. It is possible that in the contemporary British context, levels of stigma for relatively common disorders such as depression are not patterned

according to class. An alternative interpretation is that, as discussed earlier, studies which have found a link but refer to the label mental illness in general conflate stigma of disorders ranging in severity. Results for the schizophrenia vignette are consistent with – but at the same time are unable to differentiate the veracity of – both of these explanations. For this vignette, there was evidence of a class association, though the variance explained was generally not reflected in the main effect coefficients, suggesting a lack of a clear and consistent relationship. As with the depression vignette, there were some significant education and gender interaction effects, whereby women with higher levels of education had lower levels of stigma. The gender differences confirm those found in other studies. In addition, this analysis adds that gender and education interact to give rise to differential levels of stigma. One explanation is that lower class environments and cultures are more typically masculine than middle-class ones (think for example, of pubs versus bars, work environments versus university environments etc.). Whilst stigma is often suggested as an important reason why disadvantaged groups do not use mental health services, this analysis suggests that it is unlikely to account for class differentials. However, there may be some effect for women with a university education. Campaigns to promote more equitable use of mental health services should consider the interaction between class and gender, and other socio-demographics.

An interesting and unexpected finding was that there was more of an association with SES variables and stigma for a physical illness – in this case, asthma. The contrast between mental and physical illness stigma is rarely mentioned in the literature and deserves attention (though the nature of asthma stigma has been explored – see Andrews *et al.* 2013). If mental illness stigma is part of a wider propensity to stereotype and discriminate against those with illness symptoms more generally, then much can be gained adjusting our focus to

these wider patterns and contextualising mental illness stigma amongst them. The finding that those with lower levels of income perceived the asthma vignette to be more serious might be explained by physical health being more important to lower class occupations because they more typically depend on physical functioning. It therefore makes sense that 'abnormal' deviations from the health necessary for material existence are subject to more sensitive attitudes. I have described elsewhere how impetus for physical health can help to explain working-class underuse of talking treatments (Holman 2014).

In contrast to the lack of relationship with stigma, indicators of class were associated with mental health literacy. In particular, those with a degree were more likely to label the depression vignette as a case of mental illness, less likely to label it as the normal ups and downs of life, and more likely to suggest a diagnosis of depression. Campaigns to reduce stigma in order to increase service use need to consider whether that goal is sufficient if people are unlikely to appraise problems as needing help in the first place, which in turn varies according to particular demographics. Class differences in MHL did not translate into differences in preferences for professional help-seeking. Thus, it was not possible to test which types of stigma or MHL accounted for class differences in preferences because the analysis did not reveal any. Further work with detailed and validated measures is required.

The fact that education seems to be fundamental to class associations suggests that it is a useful target of interventions. Conversely, the NS-SEC and income were found to be less important mechanisms. This might be because these factors are more general and diffuse stratifying factors that give rise to differing levels of education, which has a more direct

effect on knowledge and attitudes. Further work in this area with a larger sample size could carry out a subgroup analyses on those with level levels of education to test this hypothesis.

Limitations

Cross-sectional data is limited in making causal claims. However, this issue is relatively unproblematic in the present analysis because social class factors generally precede knowledge and attitudinal factors. A further limitation is that the BSA dataset is specific to the British context. It would be useful to see if the patterns found here hold in international datasets. It would have also been useful to specify more detailed interaction effects, but the sample size was limited in this respect, given that class indicators were modelled using sets of dummy variables. Finally, survey research cannot distinguish whether class differences are due to how those from different classes respond to survey questions (e.g. in terms of social desirability bias) or substantive class differences. Research using different methodologies is necessary to validate the findings.

Conclusions

Various types of mental health stigma were generally not associated with indicators of class, but surprisingly, physical illness stigma in the form of asthma was. In addition, mental health literacy showed a class association, with education being the key socioeconomic mechanism explaining these relationships. Women with higher levels of education, especially those with a degree, had the lowest levels of stigma and highest levels of MHL. In order to reduce disparities in mental health service use, fine grain patterns at the intersection of class, gender, various types of stigma and MHL must be examined. To be effective, calls to reduce the stigma surrounding mental illness need to be specific to different sections of

the population, the type of stigma they target, and how campaigns relate to knowledge and understanding of mental illness and the general propensity for stereotyping.

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Author biography

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Table 1 - Sample socio-demographic characteristics

Variable	n (%) / mean (SD)
Women	544 (52.3%)
Age	50.1 (18.4)
NS-SEC (five category)	
Higher managerial, administrative or professional	352 (34.2%)
Intermediate	138 (13.4%)
Small employers and own account workers	83 (8.1%)
Lower supervisory and technical	136 (13.2%)
Semi-routine and routine ^a	293 (28.4%)
Never had a job ^b	22 (2.1%)
Not classifiable ^b	6 (1%)
Highest formal qualification	
Degree or above	192 (18.6%)
A-level or equivalent/higher education	240 (23.3%)
GCSE/O-level or equivalent/foreign/other	237 (23.0%)
No qualification ^a	268 (26.0%)
Don't know/refusal/NA	93 (9.0%)
Household income ^c	
Median	[£20,000 – 22,999]
Refused information	95 (9.2%)
Don't know	67 (6.5%)

a = Used as reference category in regression models.

b = Excluded from analysis.

c = 17 bands, approximately evenly distributed except £50,000+ (x2.5 number of respondents).

Table 2 - Measures of stigma

Type of stigma/questions	Response categories	Range	Cronbach's alpha
<i>Perceived public stigma</i>			
People like them should feel embarrassed about their situation	1 'Strongly agree'	7-16	.731
People like them should feel afraid to tell others about their situation	2 'Agree'		
They have little hope of ever being accepted into the community	3 'Disagree'		
Members of their family would be better off if their situation was kept secret	4 'Strongly disagree'		
<i>Perceived treatment stigma</i>			
Getting treatment would make them an outsider in the community	1 'Strongly agree'	3-12	.737
If people know they were in treatment, they would lose friends	2 'Agree'		
Opportunities would be limited if people knew they received treatment	3 'Disagree'		
	4 'Strongly disagree'		
<i>Personal stereotypical/prejudicial stigma</i>			
How likely is it they would do something violent to others	1 'Very likely'	17-40	.720
How likely is it they would do something violent to themselves	2 'Somewhat likely'		
People like them are just as intelligent as anyone else (r)	3 'Not very likely'		
People like them are more creative than others	4 'Not at all likely';		
People like them who have jobs are just as productive as others (r)	1 'Strongly agree'		
People like them are unpredictable	2 'Agree'		
People like them are just as trustworthy as anyone else (r)	3 'Disagree'		
People like them are hard to talk to	4 'Strongly disagree'		
<i>Personal discriminatory stigma</i>			
I would be willing to have them as neighbour (r)		6-24	.843
I would be willing to socialise with them (r)			
I would be willing to have them care for my children (r)	1 'Definitely willing' -		
I would be willing to befriend them (r)	4 'Definitely unwilling'		
I would be willing to work with them (r)			
I would be willing to have them marry someone I know (r)			

'Don't know' responses were treated as missing; missing cases were treated listwise.

All scales were coded so that higher scores represented higher levels of stigma; items that were reverse coded comparative to all others in the table are indicated by (r)

Table 3 – Social class factors and stigma

	A. Depression	B. Schizophrenia	C. Asthma
Perceived public stigma			
n	245	245	243
Unadj. mean (SD)	10.13 (1.56)	10.48 (1.87)	9.50 (1.82)
(1) SES adj. R ²	.006	.035	.068
(2) +gender & age adj. R ²	.042	.068	.108
(2) Sig. coefs. (95% CI)	None	None	Degree -1.132 (-2.04 – -.22) Women -.700 (-1.16 – -.24)
(3) Sig. gender interactions (95% CI)	Degree x women -1.76 (-3.23 – -.29)	Intermediate x women 3.26 (1.33 – 5.18)	None
Perceived treatment stigma			
n	235	249	242
Unadj. mean (SD)	6.44 (1.60)	6.92 (1.90)	5.20 (1.71)
(1) SES adj. R ²	-.015	.017	.030
(2) +gender & age adj. R ²	-.002	.080	.030
(2) Sig. coefs. (95% CI)	None	Emp. small orgs. -1.64 (-2.58 – -.70) Manag. & Pro. -1.29 (-2.02 – -.56) Age .140 (.068 – .212) Age ² 58.4	Emp. small orgs. .93 (.04 – 1.81)
(3) Sig. gender interactions (95% CI)	Age x women -1.16 (-.30 – -.01)	Manag. & Pro. x women 2.12 (.68 – 3.56) Intermediate x women 2.85 (.97 – 4.73) GCSE x women -1.44 (-2.80 – -.08) A-level x women -1.79 (-3.26 – -.31) Degree x women -1.74 (-3.40 – -.07)	None
Personal stereotypical/prejudicial stigma			
n	197	200	194
Unadj. mean (SD)	28.93 (3.23)	30.80 (3.50)	24.76 (2.24)
(1) SES adj. R ²	-.002	.082	.037
(2) +gender & age adj. R ²	.057	.083	.056
(2) Sig. coefs. (95% CI)	Intermediate 1.75 (.09 – 3.40) Women -1.30 (-2.24 – -.35)	None	Degree -2.52 (-4.92 – -.16)
(3) Sig. gender interactions (95% CI)	Degree x women -3.89 (-7.17 – -.61)	None	None
Personal discriminatory stigma			
n	236	245	236
Unadj. mean (SD)	13.41 (3.42)	15.69 (3.66)	11.30 (3.67)
(1) SES adj. R ²	-.010	-.002	.057
(2) +gender & age adj. R ²	.026	-.005	.049
(2) Sig. coefs. (95% CI)	Intermediate 1.71 (.10 – 3.31) Women -1.27 (-2.19 – .34)	None	Emp. small orgs. 2.12 (.21 – 4.0) A-level -1.96 (-3.62 – -.31) Degree -2.50 (-4.40 – -.61)
(3) Sig. gender interactions (95% CI)	Intermediate x women -5.17 (-9.91 – -.44) Emp. small orgs. x women -4.25 (-7.96 – -.54)	None	None

*** $p < .01$. ** $p < .05$.

Coefficient increases represent higher levels of stigma.

(1) = NS-SEC, household income and highest formal qualification (block 1).

(2) = (1) + gender, age/age squared (block 2).

(3) = (2) + interaction terms between gender and all other coefficients (all variables entered in one block).

Table 4 – Social class and mental health literacy

	A. Depression	B. Schizophrenia	C. Asthma
The person is experiencing mental illness			
n	247	264	252
Overall % 'very likely'	33.8%	63.2%	3.4%
(1) SES adj. R ²	.042	.011	-.005
(2) +gender & age adj. R ²	.070	.054	.018
(2) Sig. coefs. (95% CI)	Lower supervis. -.37 (-.71 – -.03) Intermediate -.378 (-.73 – -.03) Manag. & Pro. -.367 (-.64 – -.09) A-level .333 (.01 – .65) Degree .364 (.01 – .72) Income .027 (.00 – .05) Women .243 (.04 – .44)	GCSE .27 (.06 – .49) Degree .33 (.08 – .59) Women .29 (.14 – .45)	Women -.295 (-.50 – -.09)
(5) Sig. gender interactions (95% CI)	Age x women -.07 (-.14 – .00)		Degree x women .80 (.01 – 1.59)
The person is experiencing normal ups and downs			
n	250	265	257
Overall % 'very likely'	23.6%	19.8%	16.4%
(1) SES adj. R ²	.084	.088	.027
(2) +gender & age adj. R ²	.092	.088	.019
(2) Sig. coefs. (95% CI)	Intermediate .413 (.05 – .77) GCSE -.35 (-.65 – -.05) A-level -.45 (-.78 – -.12) Degree -.76 (-1.12 – -.39)	Lower supervis. .45 (.07 – .82) GCSE -.60 (-.94 – -.26) A-level -.45 (-.81 – -.08) Degree -.71 (-1.11 – -.30)	Emp. small orgs. .81 (.31 – 1.30)
(3) Sig. gender interactions (95% CI)	None	Intermediate x women 1.24 (.26 – 2.21 -)	GCSE x women 1.07 (.25 – 1.90) Degree x women .99 (.03 – 1.96)
The person is experiencing physical illness			
n	249	259	255
Overall % 'very likely'	8.8%	8.9%	41.0%
(1) SES adj. R ²	-.009	.015	.016
(2) +gender & age adj. R ²	.003	-.023	.014
(2) Sig. coefs. (95% CI)	None	None	None
(3) Sig. gender interactions (95% CI)	GCSE x women -.91 (-1.48 – .34)	Manag. & Pro. x women -.82 (-1.53 – .10) Intermediate x women -1.08 (-2.03 – .12) Lower supervis. x women -.97 (-1.75 – .19)	Age x women -.15 (-.03 – .03) Age ² 48 x women 48
The situation is serious			
n	250	265	257
Overall % 'very serious'	44.9%	74.2%	28.8%
(1) SES adj. R ²	-.005	.004	.067
(2) +gender & age adj. R ²	.016	.036	.079
(2) Sig. coefs. (95% CI)	None	Manag. & Pro. .25 (.03 – .46) Age .027 (.01 – .05) Age ² 46**	Income -.02 (-.04 – -.01) Age .026 (.01 – .05) Age ² 54**
(3) Sig. gender interactions (95% CI)	None	None	None
Diagnosis of the vignette			
n			
Overall % 'correct'	72.7%	34.9%	61.8%
Sig. exp(b) (95% CI)	Degree 4.47 (1.35 – 14.81) Women 2.58 (1.33 – 5.00)	None	None
Sig. gender interactions (95% CI)	Education x women 3.08 (1.29 – 7.32)	None	None

*** $p < .01$. ** $p < .05$.

Range for Likert-type variables=1-4; coefficient increases represent thinking the experience to be more likely/the vignette to be more serious.

(1) = NS-SEC, household income and highest formal qualification (block 1).

(2) = (1) + gender, age/age squared (block 2).

(3) = (2) + interaction terms between gender and all other coefficients (all variables entered in one block).

Note: For the binary logistics models, it was necessarily to model the NS-SEC and education gender interaction

terms as continuous variables due to low cell counts, though their main effects were still modelled using dummy variables.