Psychiatric Literacy and the Personality Disorders

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Abstract

Background: This study was concerned with investigating the mental health literacy of lay people in regard to the personality disorders. **Method:** 223 participants responded to a questionnaire entitled 'eccentric people' which contained vignettes of 10 personality disorders which they rated as well as labelled. **Results:** Lay people recognize people with personality disorders as being unhappy, unsuccessful at work and as having poor personal relationships, but do not associate these problems with psychological causes. Rates of correct labelling were under 7% for 7/10 personality disorders. Cluster A (apart from paranoid) was commonly labelled as depression or as an autism spectrum disorder. Clusters B and C (apart from obsessive-compulsive) were commonly labelled as 'low self-esteem'. History of psychological education and illness were positively correlated with correct recognition of 70 and 60% of the personality disorders, respectively. **Conclusion:** The mental health literacy of lay people in regard to the personality disorders is low. This raises concerns for health-seeking behaviour and diagnosis, as well as stigma and social neglect of people living with personality disorders. The question of cultural influences on the manifestation, diagnosis and recognition of mental illnesses, and the personality disorders in particular, is discussed.

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This paper is concerned with psychiatric literacy or the 'public understanding of psychiatry', particularly with respect to the personality disorders. Many studies have been done in the area of psychiatric literacy [1–3], but most have concentrated on depression and schizophrenia [4]. This study uses vignette identification methodology [5] pioneered by Jorm et al. [6].

The concept of 'health literacy' was defined as 'the ability to gain access to, understand, and use information in ways which promote and maintain good health' [7]. The term 'mental health literacy' was coined by Jorm et al. [8] and defined thus: 'knowledge and beliefs about mental disorders which aid their recognition, management or prevention'. According to Jorm et al. [8], there are many aspects to mental health literacy: 'the ability to recognise specific disorders', 'knowing how to seek mental health information', 'knowledge and beliefs about risk factors and causes', 'knowledge and beliefs about self-help interventions', 'knowledge and beliefs about professional help available', and 'attitudes which facilitate recognition and appropriate help-seeking'. A considerable amount of research has been done in the area of mental health literacy by Jorm and others [9, 10], and the concept appears to be becoming more widespread [11–13].

There are, of course, clinical and population health implications of psychiatric literacy in general or of particular illnesses or disorders. The more literate a person is, presumably the more he/she would be able to recognize symptoms in himself/herself and others and pursue

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an appropriate pathway to receive help quickly. This is indeed why so many self-help and charity mental health groups endeavour to 'educate' the public on the cause, manifestation and cure of various conditions.

Studies in certain countries suggest that the lifetime likelihood of developing a mental illness is high, such as nearly 50% in the United States [14]. However, Jorm's [10] review of public mental health literacy concluded that many lay people cannot recognize (by applying the correct label) specific mental disorders and have difficulties understanding psychiatric terms. For example, a survey by Jorm et al. [8] on the mental health literacy of the Australian population found that only 39% of participants correctly labelled depression and only 27% correctly labelled schizophrenia.

Typically, vignette identification methodology is used in studies of public mental health literacy, where participants are provided with vignettes describing characters, which they have to label. An example is a recent study which was concerned with whether lay people could identify a person as having psychopathy. Furnham et al. [15] used 3 vignettes, which accurately referred to depression, schizophrenia and psychopathy, respectively. They found that 97% of participants could identify depression and 61% schizophrenia. However, only 39% could correctly identify a psychopath (antisocial personality disorder).

An earlier study of Jorm et al. [8] employed the use of open-ended questions; participants were asked: 'What would you say, if anything, is wrong with John/Mary?' Lauber et al. [16], however, presented a closed-ended question. Participants were asked to indicate whether the persons described in the vignettes were suffering from an 'illness' or a 'crisis'. Link et al. [17] asked participants to rate the likelihood of X experiencing a 'mental illness'. In the latter 2 cases, it can be seen that Lauber et al. [16] and Link et al. [17] implied that there was something wrong with the person. The implication of a problem may contribute to the differences between the earlier findings of Jorm et al. [8] and more recent studies.

A study by Wang et al. [18] on a Canadian population found that 75.6% of participants were able to recognize depressive symptoms and use the correct label. Wang et al. [18] suggested that the higher identification rate in their study, compared to the Australian survey of Jorm et al. [8], might have been due to the Canadian study being carried out more recently and thus the results reflecting more current knowledge. However, Wang et al. [18] also noted that their sample was unrepresentative, consisting of more female and more highly educated participants than the Australian study.

This study focuses on lay theories of the personality disorders. The most relevant definition to this study is that from the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) [19]: 'an enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual's culture'. DSM-IV defines 10 personality disorders and groups them into 3 clusters, i.e. cluster A (the 'odd or eccentric' types): paranoid, schizoid and schizotypal personality disorder; cluster B (the 'dramatic, emotional or erratic' types): antisocial, borderline, histrionic and narcissistic personality disorder; cluster C (the 'anxious and fearful' types): obsessive-compulsive, avoidant and dependent.

Community studies such as that by De Girolamo and Dotto [20] indicated prevalence figures of unspecified personality disorder from 10 to 13%. These studies report that personality disorders are more common in younger age groups, particularly in 25- to 44-year-olds, and are equally distributed between males and females, though the sex ratio for specific personality disorders varies. For instance, antisocial personality disorder is more common in males. People living with personality disorders are more likely to suffer from alcohol and drug problems. In addition, they are more likely to experience adverse life events such as relationship problems, housing problems and long-term unemployment [21]. Ten to 30% of people who visit a general practitioner will have a personality disorder [22–23]. Borderline personality disorder is typically the most prevalent and most researched in psychiatric settings [21]. Patients who meet criteria for one personality disorder typically meet the criteria for other personality disorders: that is, there is considerable evidence of comorbidity [21].

People living with personality disorders are also more likely to suffer from other psychiatric illnesses such as depression [24], anxiety disorders [25, 26], as well as substance abuse and dependence [27]. However, the strengths of these associations are limited by the fact that diagnostic criteria for some personality disorders and psychiatric illnesses overlap, with the result of 'false comorbidity'. The presence of a psychiatric illness could bias the assessment of a personality disorder leading to an incorrect diagnosis [21].

There are a number of websites about personality disorders and there is extensive academic research in the area of the personality disorders. However, it seems that certain personality disorders, such as borderline and narcissistic personality disorder, are studied and discussed much more frequently than others, such as schizoid and

dependent personality disorder. Thus it may be expected that some are more easily identified than others while some disorders are nearly always mislabelled. Academic papers focus on concerns such as prevalence [28–30], the reliability of diagnosis [31] as well as the efficacy of treatment [32]. There are also a number of books, aimed at lay people, which attempt to describe the personality disorders in detail [33–35].

This study is concerned with whether or not lay people recognize the presence of a psychological problem in people living with personality disorders. Six predictions were made based on previous vignette identification studies [6, 15]. First, a lay person will fail to correctly label most personality disorders when confronted with the personality disorders. That is, a minority (less than a quarter) will correctly identify any personality disorder. Second, some personality disorders, such as obsessive-compulsive personality disorder and paranoid personality disorder, will be correctly labelled by more lay people than other personality disorders. This is because lay people seem to be more exposed to terms like 'paranoid' and 'obsessive-compulsive' through their usage in the mainstream media, whereas other terms such as 'schizotypal' or 'avoidant' appear to be rarely used (see note below). Third, schizoid personality disorder is likely to be incorrectly labelled by a lay person as an autism spectrum disorder (ASD). In schizoid personality disorder, signs of emotional 'coldness' and a lack of social interaction are present. A lay person may associate these signs with an ASD, which has similar signs, as 'autistic' is a term which seems to be used much more frequently in the media than 'schizoid'.

The fourth prediction was that borderline personality disorder is likely to be incorrectly labelled by a lay person as bipolar disorder or depression. Borderline personality disorder may present with signs of feeling depressed, empty and the tendency to self-harm or suicidal thoughts. The fifth prediction was that a lay person will consider people with narcissistic personality disorder happier than people with borderline personality disorder. This is because a person with narcissism presents with a strong sense of self-importance, whereas a borderline individual presents with depression. The sixth prediction was that a lay person's ability to correctly label a personality disorder is positively correlated with his/her levels of psychological education and personal experience with mental illness. The higher a lay person's level of psychological education or the greater his/her experience with mental illness, the higher his/her level of mental health literacy is likely to be. This is backed up by the findings of Furnham et al. [15] and Lauber et al. [36].

Method

Participants

A total of 223 participants took part in this study, of whom 128 were male (57.4%) and 95 were female (42.6%). The age range of participants was between 19 and 71 years (mean = 26.65, SD = 12.03). The majority of participants (49.3%) were between 18 and 21 years of age and White (71.7%), with the remainder being Asian (15.2%), mixed (3.6%), Black African-Caribbean (3.1%) or other (6.3%). The majority (52.9%) held a high school diploma, 30.5% held an undergraduate degree, 9.9% held a postgraduate degree, 4% held vocational qualifications, 1.3% held GCSEs and 1.3% held no educational qualifications. With regard to current occupation or occupation, the majority (60.5%) were students. Finally, participants also indicated whether they had ever studied psychiatry or psychology, and whether or not they had personally ever had treatment for a psychological illness. The majority of participants (60.1%) had not studied psychiatry or psychology, though over a third (39.9%) had. The majority of participants (83.9%) also had never had personal treatment for a psychological illness, whilst 16.1% had.

Personality Disorders Questionnaire

The questionnaire consisted of 10 vignettes describing 3 cluster A (schizotypal, paranoid, schizoid), 4 cluster B (antisocial, borderline, histrionic, narcissistic) and 3 cluster C (avoidant, dependent, obsessive-compulsive) personality disorders. The vignettes were adapted and modified from those set out in 3 textbooks [37–39]. They were around 150–200 words long and written to be easily understandable. An example:

Laura is a married 45-year-old lawyer. She was the youngest full partner in the firm's history and is known as the hardest driving member of the firm. She is too proud to turn down a new case and too much of a perfectionist to be satisfied with the work done by her assistants. Displeased by their writing style and sentence structure she finds herself constantly correcting their briefs and therefore is unable to keep up with her schedule. When assignments get backed up, she cannot decide which to address first, starts making schedules for herself and her staff, but then is unable to meet them and starts working 15 hours a day. Laura never seemed to be able to relax. Even on vacations, she develops elaborate activities schedules for every family member and gets angry and impatient if they refuse to follow her plans. Her husband is fed up with their marriage and can no longer tolerate her emotional coldness, rigid demands and long working hours.
How happy overall do you think they are?
Very 8 7 6 5 4 3 2 1 Not at all
How successful at work do you think they are?
Very 8 7 6 5 4 3 2 1 Not at all
How good are their personal relationships?
Very 8 7 6 5 4 3 2 1 Not at all
Do you think that, in any sense they have a psychological problem?
Yes   No
If so what is it? ....

Each vignette was followed by the same 3 identical questions in the same order.

There were 3 rounds of piloting. First, on the advice of a test publisher who developed a measure of the personality disorders [40], the vignettes were changed to make them less 'clinical' and more 'normal'. For the second round, the 10 vignettes without labels, and randomized with respect to the 3 clusters, were sent to 6 clinical psychologists in 3 countries. They were told that the vignettes represented 10 personality disorders. They were given a list of the disorders and asked to match them up. Five of the 6 got them fully 'correct', while 1 confused 2 disorders. Three more clinicians were asked to label the disorders without the list. Two 'correctly' identified all 10, while a third got just 1 'wrong'. Indeed it is known that expert (i.e. trained, qualified psychiatrist) diagnosis of the personality disorders is relatively unreliable [41]. In the final round, the draft questionnaire was given to 10 people who were asked to be critical with respect to the clarity of the instructions as well as the vignettes. After this, a few modifications were made.

If participants thought a character had a psychological problem, they were asked to respond to the open-ended question 'If so, what is it?' This required participants to apply a label to each vignette, given, in their opinion, that a psychological problem was evident. These qualitative responses were then coded into categories for maximal response identification. Participants who answered 'No' to 'Do you think that, in any sense they have a psychological problem?' logically did not give a response to the labelling question. This 'response' (or lack of) was coded as 'None'.

Procedure
The questionnaire was available in an online form on the Internet, in English. Once ethical approval was obtained, participants were recruited opportunistically from universities, work places through personal contacts, as well as from various Internet forums, with the aim of gaining participants with varied demographic backgrounds, so as to acquire a representative sample. Participants were invited to respond to a questionnaire on 'eccentric people', on a voluntary, anonymous basis. No remuneration was offered for participation. As participants were not invited to participate individually, it is not possible to provide a response rate.

This was essentially a (relatively small) *convenience* rather than a *general* population sample. The participants were overall younger and better educated than the general population, which is typical for online surveys. Further, a much higher percentage had some education or training in psychology/psychiatry than is found in the general population. Thus, these results may be expected to over-, rather than to underexaggerate the knowledge of 'lay people' of the personality disorders.

Results

Vignette Identification Analysis
Table 1a shows the ranking of the personality disorders by the rate of correct identification (applying the correct label). Table 1b shows the comparison of this ranking with the ranking of the terms associated with the personality disorders in the British National Corpus (BNC) by frequency. Table 1c shows the ranking of the clusters by the rate of correct identification.

The rates of correct identification of the personality disorders were compared individually with each other. χ^2 tests were carried out to determine if the differences between the identification rates of the personality disorders were statistically significant. However, in the majority of cases, assumptions for the χ^2 test were not met due to cell counts being less than the expected value of 5. Where this issue arose, the p value from a Fisher's exact test was used instead.

The rates of correct identification of all the personality disorders were found to be significantly different from each other ($p < 0.01$ or $p < 0.05$, Fisher's exact test) with the following exceptions: paranoid personality disorder and avoidant personality disorder, avoidant personality disorder and schizotypal personality disorder. The π values generally ranged from weak to medium strengths. The rates of correct identification of the clusters were similarly compared with each other. The rate for cluster A was found to be significantly different from the rates for cluster B [$\chi^2(1, n = 1,561) = 15.60, p < 0.01$] and cluster C [$\chi^2(1, n = 1,338) = 10.10, p < 0.01$]. The rates for clusters B and C were not found to be significantly different from each other [$\chi^2(1, n = 1,561) = 0.24, p > 0.05$].

Vignette Labelling Analysis
A one-way repeated-measures ANOVA was carried out to determine if the difference between participants' ratings (of the adjustment of each character to living with his/her personality disorder) was statistically significant.

Mauchly's test indicated that the assumptions of sphericity had been violated ($\chi^2 = 253.79, p < 0.01$); therefore, degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity. The results showed that the differences in means of lay ratings for character 'happiness' were significant between the personality disorders [$F(6.99, 1,552.33) = 68.95, p < 0.01$]. Post hoc pairwise comparisons of the 'happiness' means of the personality disorders, with Bonferroni adjustments, were then carried out to see where the significant differences lay.

Table 3 shows the rankings of these mean ratings and indicates which means are significantly different from each other. It also shows the rankings of the lay mean happiness ratings for the clusters and indicates which means are significantly different from each other.

Lay Ratings of Character 'Success at Work'
Mauchly's test indicated that the assumptions of sphericity had been violated ($\chi^2 = 284.40, p < 0.01$); therefore,

Table 1. Ranking of the personality disorders

a Ranking of the personality disorders by rate of correct identification

Rank	Personality disorder (cluster)	Correct responses, %
1	paranoid (A)	35.90
2	obsessive-compulsive (C)	15.20
3	narcissistic (B)	11.70
4	dependent (C)	6.70
5	borderline (B)	6.30
6 =	antisocial (B)	5.80
6 =	histrionic (B)	5.80
8	schizoid (A)	3.10
9	avoidant (C)	2.20
10	schizotypal (A)	1.30

b Comparison of the personality disorder (PD) identification rate rankings with the rankings of the frequency of their associated terms in the British National Corpus (BNC)

Personality disorder (PD)	PD recognition rate rank (high to low)	Term associated with PD	Frequency of associated term in BNC rank[a] (high to low)
Paranoid	1	'paranoid'	3
Obsessive-compulsive	2	'obsessive'	2
Narcissistic	3	'narcissistic'	5
Dependent	4	'dependent'	1
Borderline	5	'borderline'	4
Antisocial	6 =	'antisocial'	6
Histrionic	6 =	'histrionic'	8
Schizoid	8	'schizoid'	7
Avoidant	9	'avoidant'	10
Schizotypal	10	'schizotypal'	9

[a] See Goldney et al. [11].

c Ranking of the clusters by rate of correct identification

Cluster (rank)	Correct responses, %
Cluster A (1)	13.45
Cluster C (2)	8.07
Cluster B (3)	8.00

degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity. The results show that the differences in means of lay ratings for character 'success at work' were significantly different between the personality disorders [F(7.17, 1,592.617) = 269.45, p < 0.01]. Pairwise comparisons of the 'success at work' means of the personality disorders, with Bonferroni adjustments, were then carried out to see where the significant differences lay.

Table 4 shows the rankings of these mean ratings and indicates which means are significantly different from each other. It also shows the rankings of the lay mean 'success at work' ratings for the clusters and indicates which means are significantly different from each other.

Lay Ratings of Character 'Personal Relationships'
Mauchly's test indicated that the assumptions of sphericity had been violated ($\chi^2 = 253.97$, p < 0.01); therefore,

Table 2. Ranking of lay labels

a Ranking of lay labels of schizotypal personality disorder

Label category	Participants, %
None	37.70
Depression	13.00
Don't know	12.10
Autism spectrum disorder	8.50
Other/non-specific[a]	8.50
Grief/unable to let go	4.00
Hallucinations	3.60
Introversion/social interaction problem	3.10
Schizophrenia	2.70
Loneliness	1.30
Schizotypal personality disorder	1.30
Attachment to mother	1.30
Personality disorder	0.90
Schizoid personality disorder	0.90
Post-traumatic stress	0.90
Total	100.00

[a] Examples: 'weirdo', 'disengagement from reality'.

b Ranking of lay labels of paranoid personality disorder

Label category	Participants, %
None	42.60
Paranoia/paranoid personality disorder	35.90
Don't know	8.10
Other/non-specific[a]	7.60
Trust issues	4.50
Obsessive compulsive disorder	1.30
Total	100.00

[a] Examples: 'neurotic', 'persecution complex'.

c Ranking of lay labels of schizoid personality disorder

Label category	Participants, %
None	34.10
Autism spectrum disorder	20.20
Don't know	17.00
Emotional problem	6.70
Other/non-specific[a]	6.30
Social problem	3.60
Personality disorder	3.60
Schizoid personality disorder	3.10
Depression	2.70
Sociopath/psychopath	2.70
Total	100.00

[a] Examples: 'self-centred', 'superiority complex'.

d Ranking of lay labels of antisocial personality disorder

Label category	Participants, %
None	38.60
Don't know	18.80
Other/non-specific[a]	10.80
Lying/compulsive liar	7.60
Resentment/abandonment/ lack of authority figure/self-esteem	7.60
Antisocial personality disorder	5.80
Attention deficit hyperactivity disorder	3.10
Anger issues	2.70
Conduct disorder/behavioural	2.70
Personality disorder	1.30
Depression/bipolar	0.90
Total	100.00

[a] Examples: 'boredom', 'messed up'.

e Ranking of lay labels of borderline personality disorder

Label category	Participants, %
Depression/bipolar	44.40
Other/non-specific[a]	15.70
None	15.20
Don't know	13.50
Borderline personality disorder	6.30
Low self-esteem/confidence	2.20
Personality disorder	1.30
Attention deficit hyperactivity syndrome	1.30
Total	100.00

[a] Examples: 'she feels betrayed, hurt and lost', 'hormone imbalance possibly'.

f Ranking of lay labels of histrionic personality disorder

Label category	Participants, %
None	44.80
Don't know	15.70
Other/non-specific[a]	10.30
Low self-esteem/Insecurity	6.70
Histrionic personality disorder	5.80
Attention seeking	4.50
Attention deficit hyperactivity syndrome	2.20
Narcissism	1.80
Borderline personality disorder	1.80
Sex addict	1.80
Child/sexual abuse	1.80
Personality disorder	1.30
Lack of father figure/father complex	1.30
Total	100.00

[a] Examples: 'can't initiate real relationships with people', 'obsessive neediness'.

g Ranking of lay labels of narcissistic personality disorder

Label category	Participants, %
None	58.30
Narcissistic personality disorder	11.70
Other/non-specific[a]	9.90
Don't know	9.00
Delusions of grandeur/grandiosity	4.50
Superiority complex/self-centred	3.60
Insecurity/low self-esteem	2.20
Personality disorder	0.90
Total	100.00

[a] Examples: 'he is extremely arrogant', 'skewed sense of reality'.

h Ranking of lay labels of avoidant personality disorder

Label category	Participants, %
None	45.30
Low self-esteem/Insecurity	15.20
Don't know	12.60
Other/non-specific[a]	9.40
Low self-confidence	5.40
Anxiety/social anxiety	3.60
Paranoia	3.10
Avoidant personality disorder	2.20
Dependent personality disorder	0.90
Co-dependency	0.90
Attachment issue	0.90
Personality disorder	0.40
Total	100.00

[a] Examples: 'autism', 'thinks no one takes an interest in him'.

i Ranking of lay labels of dependent personality disorder

Label category	Participants, %
None	54.30
Don't know	12.60
Other/non-specific[a]	8.50
Controlling mother/'mummy's boy'	7.60
Dependent personality disorder	6.70
Low self-esteem/Insecurity	5.80
Lack of confidence/self-belief	3.60
Avoidant personality disorder	0.90
Total	100.00

[a] Examples: 'Stockholm syndrome', 'needs to assert his independence'.

j Ranking of lay labels of obsessive-compulsive personality disorder

Label category	Participants, %
None	54.70
Obsessive-compulsive personality disorder	15.20
Don't know	9.90
Perfectionist/'control freak'	8.10
Other/non-specific[a]	7.60
Too driven/'workaholic'	3.10
Personality disorder	0.90
Anankastic personality disorder	0.40
Total	100.00

[a] Examples: 'unreal expectations', 'neurotic'.

degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity. The results show that the differences in means of lay ratings for character 'personal relationships' were significantly different between the personality disorders [$F(7.08, 1,571.230) = 69.26$, $p < 0.01$]. Pairwise comparisons of the 'personal relationships' means of the personality disorders, with Bonferroni adjustments, were then carried out to see where the significant differences lay.

Table 5 shows the rankings of these mean ratings and indicates which means are significantly different from each other. It also shows the rankings of the lay mean 'personal relationships' ratings for the clusters and indicates which means are significantly different from each other.

Personal History Analysis
The relationships of a lay person's ability to correctly label a personality disorder with gender, age, religiosity, political orientation, history of psychological/psychiatric education and history of personal experience of mental illness were examined using bivariate analysis. There were a few predicted, significant but weak correlations. For those who studied psychology or psychiatry, there were weak positive correlations with the correct labelling of schizoid ($r = 0.221$, $p < 0.01$), antisocial ($r = 0.305$, $p < 0.01$), borderline ($r = 0.280$, $p < 0.01$), histrionic ($r = 0.227$, $p < 0.01$), narcissism ($r = 0.275$, $p < 0.01$), avoidant ($r = 0.186$, $p < 0.01$) and dependent ($r = 0.220$, $p < 0.01$). For those with a previous history of treatment for psychological illness, there were weak positive correlations with the correct labelling of schizotypal ($r = 0.160$, $p < 0.05$),

Table 3. Ranking of the mean lay ratings for character 'happiness'

a Ranking of the mean lay ratings for character 'happiness' for the personality disorders

Personality disorder (cluster)	Mean	SD
Schizoid (A)	4.13[a]	1.78
Narcissism (B)	4.05[a]	1.70
Schizotypal (A)	3.86[a, b]	1.51
Paranoid (A)	3.81[a, c]	1.41
Dependent (C)	3.60[b, c]	1.50
Obsessive-compulsive (C)	3.28	1.43
Histrionic (B)	2.91[d]	1.37
Avoidant (C)	2.88[d]	1.27
Antisocial (B)	2.63[d]	1.42
Borderline (B)	2.02	1.03

Scale: from 1 (not at all happy) to 8 (very happy) (n = 223 for each disorder). Means sharing the same superscript are not significantly different from each other ($p > 0.05$). However, means that have no superscript in common are significantly different from each other ($p < 0.05$ or $p < 0.01$).

b Ranking of the mean lay ratings for character 'happiness' for the clusters

Cluster (rank)	Mean	SD
Cluster A (1)	3.93[a]	1.57
Cluster C (2)	3.25[b]	1.40
Cluster B (3)	2.90[a, b]	1.38

Scale: from 1 (not at all happy) to 8 (very happy) (n = 669 for clusters A and C, n = 892 for cluster B). Means sharing the same superscript are not significantly different from each other ($p > 0.05$). However, means that have no superscript in common are significantly different from each other ($p < 0.05$).

Table 4. Ranking of the mean lay ratings for character 'success at work'

a Ranking of the mean lay ratings for character 'success at work' for the personality disorders

Personality disorder (cluster)	Mean	SD
Obsessive-compulsive (C)	5.92[a]	1.77
Paranoid (A)	5.84[a]	1.47
Dependent (C)	4.54[b]	1.76
Schizoid (A)	4.39[b]	1.70
Avoidant (C)	4.35[b]	1.56
Schizotypal (A)	4.31[b]	1.62
Narcissistic (B)	4.22[b]	1.73
Histrionic (B)	2.68	1.47
Borderline (B)	1.79[c]	1.07
Antisocial (B)	1.59[c]	0.89

Scale: from 1 (not at all successful) to 8 (very successful) (n = 223 for each disorder). Means sharing the same superscript are not significantly different from each other ($p > 0.05$). However, means that have no superscript in common are significantly different from each other ($p < 0.01$).

b Ranking of the mean lay ratings for character 'success at work' for the clusters

Cluster (rank)	Mean	SD
Cluster C (1)	4.94[a]	1.70
Cluster A (2)	4.85[a]	1.60
Cluster B (3)	2.57[b]	1.29

Scale: from 1 (not at all successful) to 8 (very successful) (n = 669 for clusters A and C, n = 892 for cluster B). Means sharing the same superscript are not significantly different from each other ($p > 0.05$). However, means that have no superscript in common are significantly different from each other ($p < 0.05$).

schizoid ($r = 0.201$, $p < 0.01$), borderline ($r = 0.188$, $p < 0.01$), histrionic ($r = 0.203$, $p < 0.01$), narcissism ($r = 0.220$, $p < 0.01$) and avoidant ($r = 0.181$, $p < 0.01$).

Discussion

For all the vignettes apart from borderline personality disorder, most participants failed to recognize the presence of a psychological problem. In each vignette, most participants who did recognize a psychological problem failed to give the correct label. With 3 exceptions, the correct identification (applying the correct label) rate for all the personality disorders was very low, below 7%.

This is consistent with the first prediction, namely that a lay person will fail to correctly label most personality disorders when confronted with them. This is also consistent with Jorm's [10] survey, i.e. that many people fail to correctly label mental disorders. Thus the mental health literacy of the general public, with respect to the personality disorders, is very low.

Low mental health literacy may affect the presentation of a patient's symptoms to a general practitioner or any other medical practitioner. Kessler et al. [42] reported that the majority of patients with psychological problems present to their general practitioner with somatic symptoms. When questioned about the causes of the symptoms, patients tend to choose 'normalizing' attributions,

Table 5. Ranking of the mean lay ratings for character 'personal relationships'

a Ranking of the mean lay ratings for character 'personal relationships' for the personality disorders

Personality disorder (cluster)	Mean	SD
Paranoid (A)	3.47[a]	1.41
Dependent (C)	3.42[a]	1.50
Obsessive-compulsive (C)	3.00	1.16
Avoidant (C)	2.66[b]	1.14
Antisocial (B)	2.61[b, c]	1.32
Histrionic (B)	2.46[b, d]	1.19
Narcissism (B)	2.30[c, d]	1.06
Schizotypal (A)	2.27[c, d]	1.06
Borderline (B)	2.23[d]	1.14
Schizoid (A)	1.57	0.93

Scale: from 1 (not at all good) to 8 (very good) (n = 223 for each disorder). Means sharing the same superscript are not significantly different from each other (p > 0.05). However, means that have no superscript in common are significantly different from each other (p < 0.01).

b Ranking of the mean lay ratings for character 'personal relationships' for the clusters

Cluster (rank)	Mean	SD
Cluster C (1)	3.03[a]	1.27
Cluster A (2)	2.44[a, b]	1.14
Cluster B (3)	2.40[b]	1.18

Scale: from 1 (not at all good) to 8 (very good) (n = 669 for clusters A and C, n = 892 for cluster B). Means sharing the same superscript are not significantly different from each other (p > 0.05). However, means that have no superscript in common are significantly different from each other (p < 0.05).

deriving the symptoms from situational causes. The study by Kessler et al. [42] was concerned with symptom attribution and recognition of depression and anxiety in primary care; however, we can apply this line of thinking in relation to the results of this study on the personality disorders. When being interviewed by their general practitioner, patients with personality disorders might also choose 'normalizing' attributions for their symptoms, rather than psychological attributions, thus reducing the likelihood of being diagnosed with a personality disorder. Thus the likelihood of early recognition and suitable intervention in regard to the personality disorders is low.

It should be noted that participant responses were only marked as correct if they explicitly named the personality disorder. This was a very strict criteria which underestimates psychiatric literacy. 'Emotional coldness' is a diagnostic criterion for schizoid personality disorder, for example, but responses such as these which did not specifically label the vignette as 'schizoid' were marked as incorrect. Similarly, 'compulsive lying' is a feature of antisocial, 'attention seeking' a feature of histrionic, 'grandiosity' a feature of narcissism, and being a 'perfectionist' and 'work addict' are features of obsessive-compulsive personality disorder; but these responses were all marked incorrect in this study for their respective vignettes, as they did not explicitly refer to the personality disorder in question. Thus a similar study with less strict criteria for responses to be deemed correct would be likely to report greater rates of identification for certain personality disorders.

Some personality disorders were better identified than others. Paranoid personality disorder (35.9% correct), followed by obsessive-compulsive personality disorder (15.2%), and narcissistic personality disorder (11.7%) were the most correctly labelled personality disorders (and the only disorders with identification rates above 10% – again the strict criteria for correct responses should be noted). Cluster A had the highest identification rate, and this was significantly higher than the identification rates of clusters B and C. However, it should be noted that cluster A contains paranoid personality disorder, which had a vastly higher identification rate than any other personality disorder. This has skewed the identification rate for cluster A.

The identification rates of the individual personality disorders were found to be significantly different from each other with the exception of the identification rate of avoidant with those of paranoid and schizotypal. These results are consistent with the second prediction that stated that some personality disorders such as obsessive-compulsive and paranoid would be correctly labelled by more lay people than other personality disorders. The identification rate for paranoid was over twice as high as the rate for obsessive-compulsive, which in turn was over twice as high as the rest of the disorders apart from narcissism.

Why the discrepancy in rates of recognition? A possible explanation is that lay people are more exposed to certain terms, such as 'paranoid' and 'obsessive-compulsive', than others through the frequency of their respective usage in the media. For instance, the term 'paranoid' is often used in relation to discussions regarding conspiracy theories in the media, and also in lyrics to pop songs. There have been television documentaries about 'obses-

sive-compulsive' people, and lay people frequently use the term 'OCD' when referring to a person who has an 'obsessive' tendency of washing their hands or arranging items in a perfect order. In contrast, terms like 'avoidant' and 'schizotypal' appear to be rarely used in the media, and these were the two worst recognized personality disorders.

Table 1 shows a comparison of the identification rate rankings for the personality disorders with the ranking of the frequency of their associated terms in the BNC. (For example, the associated term for 'paranoid personality disorder' is 'paranoid'.) It should be noted that the frequency of these terms is taken irrespective of the context of the usage of the word [43].

This notwithstanding, it is interesting to note that the top 5 and bottom 5 positions of the identification rate rankings correspond with the top 5 and bottom 5 positions of the BNC frequency rankings. They contain the same personality disorders/associated terms, but in slightly different orders. Although this has not been statistically confirmed, this suggests that the more familiar lay people are with a term, the more likely they are to correctly label the personality disorder associated with that term. This is based on the assumption that a lay person is more familiar with a term the more frequently that the term is used in language, including in the media.

Vignette Labelling

There were some patterns in the labelling of the vignettes with respect to the clusters and the individual personality disorders themselves. Consistent with the third hypothesis, the most common label for schizoid personality disorder was 'autism spectrum disorder', given by 20.2% of participants. 'Autism' and 'autism spectrum disorder' are also terms that lay people are often exposed to through the media, such as films like the Oscar winning 'Rain Man' [44], as well as in the news, where the condition was linked to the MMR vaccine. In both schizoid personality disorder and ASDs, signs of emotional 'coldness' and a lack of social interaction are evident. As lay people are more exposed to the term 'autistic' than 'schizoid', they are more likely to label schizoid personality disorder as an ASD. Schizotypal personality disorder was also identified as an ASD by 8.5% of participants, and similar signs of a lack of social interaction are present in this disorder. However, the most common label for schizotypal was 'depression' (13% of participants).

Consistent with the fourth prediction, the majority of lay people (44.4%) labelled the borderline vignette as 'depression/bipolar'. Again, a possible explanation would be

in relation to the usage of the respective terms in the media. 'Borderline' appears to be rarely used in a mental health context. However, lay people are quite frequently exposed to the terms 'depression' and 'bipolar' in the media, particularly in reference to celebrity figures who are diagnosed with these disorders. Some signs of borderline personality disorder, such as feeling empty and the tendency to self-harm, overlap with depression and bipolar disorder. As lay people are more familiar with the latter terms, they are more likely to label the signs of borderline as being 'depression' or 'bipolar'.

With respect to the clusters, lay people tended to label the cluster A vignettes (apart from paranoid personality disorder) as either 'depression' or 'ASD'. However, they tended not to use these labels for the other clusters. Instead, the recurring specific lay label for the cluster B and C vignettes was 'low self-esteem', particularly with avoidant personality disorder (15.2% of participants). Obsessive-compulsive personality disorder was the exception to this trend. Focusing on the cluster B vignettes, attention deficit hyperactivity disorder was a recurring specific lay label. Narcissistic personality disorder was the exception to this.

The obsessive-compulsive, paranoid and narcissism vignettes tended to have labels that typically did not overlap with the other personality disorder vignettes. This suggests that these 3 personality disorders have more distinctive features than the other disorders, and perhaps explains why they were the most recognizable to lay people.

Ratings of Character Adjustment

Table 3 shows that the rankings of the mean lay 'happiness' ratings for the individual personality disorders were significant for certain disorders. The fifth prediction was that a lay person would consider someone with narcissistic personality disorder happier than someone with borderline personality disorder. The results show that, in fact, all the other characters, not just the narcissist, were rated as being significantly happier than the borderline individual. This is probably due to the borderline individual presenting with depression, which was the most common label for the borderline vignette.

Table 3 shows that cluster A had the highest mean happiness rating. Lay people rate people with cluster A disorders as being significantly happier than people with cluster C disorders. The likely reasons for this are reflected by the descriptions of the clusters. People with cluster C disorders present as being 'anxious' or 'fearful', as opposed to people with cluster A disorders who present as

being 'odd' or 'eccentric'. Thus people with cluster A disorders probably seem happier to lay people as they seem less fearful than people with cluster C disorders.

Cluster B had the lowest mean happiest rating – though narcissism was the second highest disorder individually. However, the mean of cluster B was not significantly different from the means of clusters A or C.

Table 4 shows that the rankings of the mean lay 'success at work' ratings for the individual personality disorders were significant for certain disorders. Lay people rated the obsessive-compulsive and paranoid characters as having significantly better work success than all the other characters. This is probably due to these 2 characters presenting in the vignettes as being extremely dedicated to their work. In contrast, lay people rated the antisocial and borderline characters as having significantly worse work success than all the other characters. This is likely to be due to there being little suggestion in the vignettes that the 2 characters are employed. Even if there was, however, it is unlikely that their 'work success' ratings would be markedly different; the antisocial character presents as having problems with authority and rule-breaking, and the borderline character presents with emotional instability. It seems unlikely that a lay person would rate someone with these signs as being successful at work.

Lay people rate people with cluster B disorders as having significantly worse success at work than people with cluster A and C disorders. Again the likely reason for this is reflected in the description of the cluster B disorders. People with cluster B disorders show signs of being 'emotional' or 'erratic'. Thus it seems likely that a lay person would rate people with cluster A and C disorders as having greater success at work, as they appear to be more emotionally stable than people with cluster B disorders. A lay person may consider a lack of emotional stability as not being conducive to the workplace.

As table 4 shows, the mean 'success at work' ratings for clusters A and C were not significantly different from each other. In general, lay people did not rate people with personality disorders as being very successful at work.

Table 5 shows that the rankings of the mean lay 'personal relationships' ratings for the individual personality disorders were significant for certain disorders. Lay people rated the schizoid character as having significantly worse personal relationships than all the other characters. This reflects the presentation of the schizoid character in the vignette as 'having virtually no conversational contacts'. It is interesting to note that this is in spite of lay people rating the schizoid character as the happiest out of the characters (though not significantly so in all cases).

Lay people rated the paranoid and dependent characters as having significantly better personal relationships than the other characters. This perhaps reflects that these particular characters present in the vignettes as having a very close relationship with one person, although one could argue that it suggests that they have poor relationships with others. The paranoid character 'never confides in anyone but his wife' and the dependent character 'has lunch every day with one of his two best friends'.

Table 5 shows that lay people rate people with cluster C disorders as having significantly better personal relationships than people with cluster B disorders. Again, a possible explanation is the difference in emotional stability between the 2 clusters. The mean 'personal relationships' rating for cluster A was not significant compared with the means of the other clusters. In general, lay people did not rate people with personality disorders as having very good or even moderately good personal relationships.

Personal History
A personal history of having studied psychology or psychiatry had significant weak positive correlations with the correct identification of 70% of the personality disorders, including 100% of the cluster B personality disorders.

A personal history of personal treatment for a psychological illness had significant weak positive correlations with the correct identification of 60% of the personality disorders. Therefore, lay people with a history of psychological or psychiatric education are more likely to correctly label the personality disorders, particularly cluster B disorders. In addition, lay people who have been personally treated for a psychological illness are more likely to correctly label the personality disorders. This suggests that psychological education and experience with psychological illness leads to an improvement in mental health literacy.

It should be noted that this study found only a weak association between a lay person's ability to correctly label a personality disorder and a history of psychological education and psychological illness. However, the overall findings are consistent with the sixth hypothesis. The finding that the correct identification of a vignette correlates positively with a personal history of psychological education is consistent with the findings of Furnham et al. [15]. The finding that a personal history of psychological illness correlates positively with the identification of a mental disorder is consistent with the findings of Lauber et al. [36].

Implications for Clinical Practice and Mental Health Promotion

Mental health literacy is related to health-seeking behaviour and diagnosis as well as stigma and the potential social neglect of people living with particular disorders. This study showed that people seem less able to 'detect and diagnose' the personality disorders than schizophrenia and certainly depression [15]. For most of the disorders, these relatively young and well-educated respondents were unable (or unwilling) to give any diagnosis or label. Some disorders, i.e. borderline, seemed much less understood than others like narcissism. The fact that people seem so poorly informed about the personality disorders may account for the number of popular books in the area [33–35] which tend to use more approachable and less technical terms to describe the disorders. Thus borderline is described as excitable, or mercurial, or volatile or reactors, while schizoid is described as reserved, solitary, oddball or aloof. These books attempt a description of the disorder but also give recommendations for dealing with people like one's boss or life partner if they have this disorder.

These results suggest that ignorance about the personality orders may lead to a large number of disordered people undiagnosed in the community. Some, no doubt, find partners and occupations that allow them to cope well, i.e. obsessives in quality control/internal audit; paranoids in security, etc. However, recent research on management derailment suggests a major cause in the inability of lay people to understand antisocial personality disorder [45, 46]. It seems that psychiatric literacy campaigns could be very successful in the workplace, perhaps through the medium of occupational health to educate people to understand the behavioural manifestations of numerous of the personality disorders.

Limitations and Strengths of the Study

As the demographic data suggest, this sample should not be considered representative of the general public. The sample was made up of mainly white and well-educated participants, and of predominantly students and thus participants with low or no annual income, who fell in the 18- to 21-year age group. The latter feature of the sample is not necessarily a weakness as personality disorders are more common in younger people, particularly 25- to 44-year-olds [20], so it is useful to gauge their understanding of the personality disorders. It is probably true to suggest that a representative sample would be even less well informed about the personality disorders, particularly concerning the labelling of the disorder.

Furthermore, there are always concerns about the vignettes. Although they were correctly identified and classified by clinical psychologists, there will always be debates about how clearly they described all the salient behaviours associated with each disorder. Subtle wording issues easily lead to particular results and these could be revisited. Also we asked about happiness and success at work rather than such things as adverse life events or housing issues which could have yielded subtly different results.

Third, we applied the very strict criterion for correct identification of each disorder being the technical label. Often participants had a good idea of the disorder without using the very specific diagnostic term. However, the data from tables 4 (ratings of happiness) and 5 (ratings of success at work) do show how the participants rated the general adjustment of the various disorders.

One final, but important, point needs to be made and refers to the cultural specificity of these findings. Cultural influences on the way mental illnesses and disorders are manifest is well established [47]. Some problems like depression are more well known and more similarly manifest across cultures than others like schizophrenia. The personality disorders have always been a highly debated area in western (American and European) psychiatry. Categories have been dropped, changed and introduced. There remains concern about the reliability of diagnosis as well as the considerable amount of comorbidity with the disorders. This means that the results of this study may be thought to be particularly 'culture bound' and not easily replicated on other cultures which would consider the manifestation of different personality disorders quite differently.

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