UNIVERSITY OF PADOVA

Department of General Psychology

Bachelor's Degree Course in Psychological Science

Final dissertation

(Multicultural Differences on Personality Disorders Literacy: A Survey Study)

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Abstract

Aims: Mental health literacy refers to people's knowledge, as well as beliefs, about the diagnosis and treatment of mental illness. Aim of the current study is to multiculturally investigate mental health literacy of Turkish and Italian lay people regarding personality disorders (PDs). **Methods**: 262 participants responded to an online delivered vignette-identification task (Furnham & Winceslaus, 2011), requiring them to both label and rate hypothetical people with seven PDs. **Results:** Majority of participants recognized the presence of a psychological problem; however, they generally failed at labelling characters with the correct PD label. Narcissistic (22.9%) and obsessive-compulsive (12.6%) PDs were the most correctly labelled while no participant labelled avoidant PD. Borderline PD was highest as recognized having a psychological problem, yet it was one of the least correctly identified. Compared to the Turkish participants, the Italian ones were more able at labelling narcissistic PD correctly (χ^2=15.869, p <.05). Participants rated narcissistic personality disorder as being the most happy, successful, and satisfied in their relationships. Younger age, personal history of psychological illness and knowing someone who had treatment were positively associated to PDs literacy. Interestingly, females performed better than males in correctly labelling the narcissistic personality disorder (χ^2= 29,777, p < 0,05). **Conclusion**: Differences between cultures for PDs literacy was found to be limited. Overall, lay people from both cultures are successful at recognizing the presence of a mental illness yet fail to label it correctly. Our findings could be useful in designing outreach programs to promote mental health literacy on PDs, thereby facilitating early recognition and help-seeking behaviors in the community.

Introduction

The term “mental health literacy” (MHL) is a relatively new one. "Mental health literacy" refers to lay people's (general population) knowledge and beliefs about mental disorders which aid their recognition, management, or prevention. MHL includes the ability to recognize specific disorders; knowing how to seek mental health information; knowledge of risk factors and causes, of self-treatments, and of professional help available; and attitudes that promote recognition and appropriate help-seeking) (Jorm A. F., 1997).

The term “mental health literacy” needs to be contextualized to understand its current significance and the history that led it its conception. Anthony Jorm, who coined the term with his colleagues explain: “*In the mid-1990s, some colleagues and I in Australia were struck by this contrast and the lack of research and action on public knowledge and beliefs about mental disorders. At that time, the dominant view was that the focus needed to be on training general practitioners (GPs) and other primary healthcare workers to better identify and manage mental disorders. The public were simply not seen as an important target. To draw attention to this neglected area, we coined the term mental health literacy”* (Jorm A. , 2012).

Approximately 1 in 5 people meet the criteria for a common mental illness and 29.2% of people had have experienced a common mental disorder at some time during their lifetime (Winsper, 2020). Burden of mental illness is huge; it is estimated that effect of depression on employment in cost terms is 23 times larger than the costs falling to the health service (Thomas, 2003).

MHL can help to facilitate early recognition and help-seeking behavior (Kelly, 2007) and may assist effective self-help and support of others in the community (Jorm A. , 2000). And it has been shown that MHL of populations can be improved (Jorm A. F., 2006). Also, it

has been shown that inadequate levels of MHL were associated with greater odds for moderate to severe depression (Lawrence, 2014). Therefore, it is important to identify sociodemographic groups with low MHL levels to initiate appropriate interventions (Schneider Michael, 2011).

Mental health literacy research is growing rapidly mainly in high-income countries (Sweileh, 2021) In 2006, a 10-year survey study on mental health research found that 90% of all mental health research originated from high income countries (Saxena, 2006). This shows that there is an urgent need for mental health and mental health literacy research in developing countries.

Mental health literacy research is very limited in Italy and Turkey (Tokur Kesgin M, 2022) (Pehlivan, 2021) (Akgün, 2022) (Serra, et al., 2013). Findings in Turkey showed that MHL levels are inadequate society-wide (Akgün, 2022) (Tokur-Kesgin, 2020). In Italy findings showed "high school students had a reasonable knowledge of mental disorders… However, they had doubts on the psychopathological nature of disorders such as panic attacks and alcohol dependence." (Serra, et al., 2013). In Italy past investigations focusing on this topic were based on pilot studies intended to test the feasibility of a protocol or the validity of a questionnaire (Serra, et al., 2013) (Buizza C, 2010) (Mirabella F, 2010) (Pingani, 2012) (Vezzoli, 2001). In addition, recent studies in developed and developing countries found low MHL levels (Schneider Michael, 2011) (Elyamani R, 2021). Previous study on personality disorders literacy focused on a specific population and culture –UK- (Furnham & Winceslaus, 2011). Multi-cultural studies are needed to understand differences in perception (Ronningstam, 2018) as well as literacy of mental illnesses to detect the populations in with low literacy and to develop interventions to improve their conditions. Furthermore, multi-cultural differences can be a starting point to investigate and understand local phenomena and cultural psychological constructs.

Personality disorders affect a significant portion of the population. WHO World Mental Health Surveys which included Italy showed that the prevalence for any personality disorders is 6.1% (Huang, 2009). A more recent review found the worldwide prevalence to be 7.8% and rates were greater in high-income countries (9.4%) and significantly lower (4.3%) in low and middle-income countries (Winsper, 2020). A survey study conducted on a community sample in Turkey found the prevalence rate of PDs to be 20% (Dereboy, 2014).

People living with personality disorders are more likely to suffer from alcohol and drug problems. They are more likely to experience adverse life events such as relationship problems, housing problems and long-term unemployment (P., 2002). They are also more likely to suffer from other psychiatric illnesses such as depression, 20% to 50% of inpatients and 50% to 85% of out-patients with a current major depressive disorder have an associated personality disorder (Corruble E, 1996), anxiety disorders, and social phobia (Sanderson WC, 1994).

The aim of this study is to provide MHL evidence concerned with whether participants from Italy and Turkey show differences in their abilities to recognize personality disorders and label them correctly. Specifically, we aimed at investigating the participants' labelling (i.e., right/wrong labelling answers) of PDs, their perceptions about pathology/normality and various aspects of living with a personality disorder (i.e., happiness, success at work, satisfaction in relationship), as well as potential predictors (i.e., sociodemographic factors and familiarity with mental illness).

Informed by previous research (Furnham & Winceslaus, 2011) (Furnham A. D., 2009) we made five predictions: 1) Italian and Turkish participants would show different levels of success at labelling personality disorders; 2) the majority of participants would not correctly label personality disorders regardless of their ethnicity; 3) younger participants

would be more successful at recognizing and labeling psychological problems; 4) having a personal history with mental health treatment would increase one's ability to recognize and label mental health disorders and 5) Turkish and Italian participants will rate characters' "happiness, successful at work and satisfying relationships' differently than each other.

Methods:

Study Design:

An online survey designed in Qualtrics was administered using snowball sampling techniques. Questionnaire was available in two languages: Italian, and Turkish. Participants were recruited through social media using personal contacts. Participants were told within the questionnaire that they will read "vignettes where people in their daily lives are portrayed in different contexts" and were asked to rate them and answer whether they think they have a psychological problem. Data was collected from September 25 to October 31, 2022. Participation in the research was voluntary, and no incentives were provided.

All participants provided informed consent by agreeing to the data protection declaration prior to starting the survey. The principles outlined in the Declaration of Helsinki were followed, ensuring anonymous participation through the administration of the informed consent format of the ethics committee of the University of Padua (GDPR EU 2016, pd. 196/03).

Participants:

A total of 262 participants took part in the study, of whom 128 were male (48.9%) and 133 were female (50.8%). The age range of participants was between 18 and 78 (mean =

44.18, SD 16.757). Most participants were Turkish (n = 181, 69.1%) and the rest was Italian (n = 81, 30.9%). The majority held a bachelor's degree (49.2%), 28.2% held high school diploma, 16.8% held master's degree, and 2.7% held post graduate degrees. 3.1% did not report their education qualification. Regarding occupation, 17.9% were students (their majors were undeclared), 13.7% were working in a law related field (persecutors, judges, lawyers), 8.4% worked in a health-related profession (doctors, nurses, physiotherapists) and 1,1% were in a mental health profession (psychologists, psychiatrists, psychotherapists). Finally, the participants were asked whether they had treatment for a psychological illness and whether they knew someone had treatment for a psychological illness. While only 9.2% reported they had personal treatment for a psychological illness (of those who reported yes to treatment %33.3 had received treatment for depression and 25% for anxiety), 47.7% percent reported they knew someone who had treatment for a psychological illness (25.8% depression, 20% schizophrenia, 17.5% bipolar disorder). Above mentioned and characteristics of the sample are reported in Table 1.

Table1. Characteristics of the sample

	Frequency	Percentage
Gender		
Male	128	48.9
Female	133	50.8
Nonbinary	1	0.4
Ethnicity		
Turkish	181	69.1
Italian	81	30.9
Country		
Turkey	168	65.6
Italy	84	32.8
Other	4	1.6
Education		
High school	74	29.1
Bachelor	129	50.8
Master	44	17.3

PhD or higher	7	2.8
Profession		
Health related	22	8.6
Mental health related	3	1.2
Law related	36	14.1
Student	47	18.4
Finance, Business and Communication	33	13.0
Engineering/Architecture	24	9.4
Skilled labourer	9	3.5
Education and social science	22	8.6
Public servants and clerks	19	7.5
Tourism, art and sport	9	3.5
Other	31	12.2
Mental treatment		
Yes	24	9.3
No	234	90.7
People known who had mental treatment		
Yes	125	48.1
No	135	51.9

Personality Disorders Questionnaire

We obtained the questionnaire from Adrian Furnham which was used for his survey study (Furnham & Winceslaus, 2011). To make the questionnaire more accessible to lay people we cut three personality disorders namely dependent, schizoid, and histrionic personality disorders. Schizoid personality disorder was removed because of its overlapping characteristics with schizotypal personality disorder. Dependent and histrionic personality disorders were removed because they were less prevalent than other PDs in their clusters (Volkert, 2018). This was necessary to decrease the time it took to complete the survey as it took over 20 minutes with 10 vignettes and 15 minutes with 7 vignettes. Final version was still way over the suggested completion time of 10 minutes which was indicated by the professional surveying platform Qualtrics. Vignettes were slightly modified to make them fit

with new DSM-Vtr (APA, 2022) criteria. The vignettes were translated into Italian and Turkish, and two versions of the questionnaire were sent out. Each vignette was followed by the same 5 questions regarding the adjustment of each character to living with his/her personality disorder. Names in the vignettes were changed to fit the local culture, for example Barry was translated into Berkay and Bruno. Finally, demographical data, personal history of mental illness, and familiarity (i.e., have had knowing someone with) mental illness are asked in the survey.

A vignette example, as well as the questions asked to participants, are reported below:

Survey vignette:

Barry is a single 45-year-old man working in a post office. He enjoyed this job as it involved little contact with others. He refused several promotions because he feared the social pressures. He supervises a number of employees but still finds it hard to give instructions even to people he has known for years. Barry had dated a few women he met through family introductions. He was never confident enough to approach a woman on his own. Perhaps it was his shyness that first attracted Steph, his co-worker. Steph had asked him out, but Barry declined at first, claiming some excuse. When Steph asked again a week later, Barry agreed thinking she must really like him if she were willing to pursue him. The relationship developed and soon they were dating every night. However, the relationship strained when Barry interpreted any slight hesitation in her voice as a lack of interest. He repeatedly requested reassurance that she cared for him and evaluated every word and gesture for evidence of her feelings. When Steph said she could not see him because she was tired. he assumed she was rejecting him. After several months, the relationship ended because Steph

could not stand Barry's constant nagging. Barry assumed that Steph had never really cared for him.

Survey questions:

In general, how happy do you think Barry is?

Very 5 4 3 2 1 not at all

In general, how successful at his work do you think Barry is?

Very 5 4 3 2 1 not at all

In general, how satisfying do you think Barry's personal relationships are?

Very 5 4 3 2 1 not at all

Do you think that, in any sense they have a psychological problem?

Very 5 4 3 2 1 not at all

If so, what is it? ……..

(open ended question)

Inclusion criteria for labels and survey-entries:

Completing at least all questions to four vignettes had to be answered to be considered valid for data analysis. For all the personality disorders, just the name of the personality disorder was enough to be accepted as a correct label, such as narcissistic, borderline, and obsessive-compulsive, without indicating 'personality disorder'. Also, for narcissistic personality disorder answers that were 'narcissistic' and 'narcissism' were accepted as correct labels. For obsessive-compulsive personality disorder, labels that were 'obsessive', 'OCD' and 'obsessive-compulsive' were accepted as correct labels. More than one answer was allowed for labels.

Statistical analysis

A χ^2 test was applied to assess differences in the distribution of right/wrong labelling answers between Italian and Turkish participants. A one-way repeated-measures ANOVA was carried out to determine if the difference between participants' ratings of characters' "happiness", "success at work", and "satisfying relationships" was statistically significant. An independent-samples t-test was conducted to compare the above-mentioned ratings for Italian and Turkish participants. Spearman's correlations were calculated to estimate putative associations between age and literacy (i.e., right/wrong labelling answers). A χ^2 test was applied to assess literacy differences related to personal history of psychological illness , knowing someone who had treatment, and gender. All analyses were conducted using SPSS (Version 25) for Mac.

Results

Labelling PDs

Table 2 and Figure 1 shows correct-labelling rate of vignettes as well as the rate of recognition of a "psychological problem" by lay people. The recognition of the existence of a "psychological problem" ranged between 70 and 92%. The most correctly identified was narcissistic personality disorder (22.9%) followed by the obsessive-compulsive (12.6%). Borderline personality disorder was recognized the most as having a psychological problem (91,6%) yet it was one of the least correctly identified (4.6%). Avoidant personality disorder was the least correctly labelled personality disorder (0%), yet it is the second most recognized as having a psychological problem (86.3%).

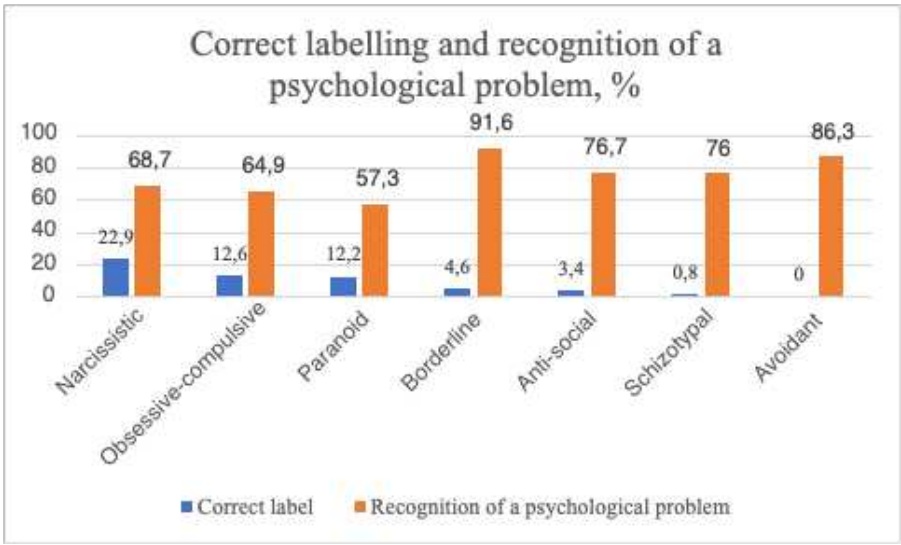
Table S1 in appendix shows the ranking of label categories for personality disorders. Schizotypal personality disorder was labelled as "schizophrenia" by 8.4% of participants and "denial of reality" by 8.8% of participants. Paranoid personality disorder was labelled "trust issues" by 18.3% of the participants and "scepticism/sceptical" by 12.2% participants. Anti-social personality disorder was labelled "Lying/mythomania" by 6.9% of participants, "behavioural disease" by 2.3% of participants and "criminal disposition" by 1.6% of participants. Borderline personality disorder was labelled "Bipolar" by 12.3% of participants and "unbalanced/unhappy" by 7.7% of participants. Narcissistic personality disorder was labelled "selfish/egoist" by 11.1% of participants and "approval/attention seeking" by 5% of participants. Avoidant personality disorder was labelled "Insecurity/low self-esteem" by 35.11% of participants and "asocial" by 4.2% of participants. Obsessive-compulsive disorder was labelled "control freak/control issues" by 9.2% of participants and "workaholic" by 3.8% of participants. Amongst the labels there were "in mother's womb" for schizotypal personality disorder, "immature personality" for paranoid personality disorder, "piece of shit" for anti-social personality disorder, "personality breakdown" for borderline personality disorder, "loser mentality" for narcissistic personality disorder, "complex" for avoidant personality disorder and "caring too much for little things" for obsessive-compulsive disorder that were included in "Other/ Non-specific" categories.

Table 2. Rankings of the personality disorders by the rate of correct labelling and participants' recognition of a psychological problem in vignettes

Correct Response Ranking	Personality Disorders	Correct Response, %	Recognition of a Psychological Problem Ranking	Recognition of a Psychological Problem, %
1	Narcissistic	22.9	5	68.7

2	Obsessive-compulsive	12.6	6	64.9
3	Paranoid	12.2	7	57.3
4	Borderline	4.6	1	91.6
5	Anti-social	3.4	3	76.7
6	Schizotypal	0.8	4	76
7	Avoidant	0	2	86.3

Figure 1. Graphical representation of lay correct labelling rates of personality disorders and participants' recognition of a psychological problem in vignettes



Multi-Cultural Differences in Labelling PDs

The rates of correct identification of the personality disorders were compared between Italian and Turkish respondents. One multi-cultural difference was found in the performances

of labelling personality disorders. Specifically, Italian participants were found to be better at labelling correctly the narcissistic personality disorder than Turkish participants ($\chi^2 = 15.869$, $p < .05$).

Table 3. Labels (Guesses) of two samples and the correctness frequency

	Turkish		Italian		Chi-Square
	Guess	Wrong	Guess	Wrong	
Avoidant	0	181	0	81	0
Borderline	8	173	4	77	.034
OCPD	23	158	10	71	.007
Narcissism	29	152	31	50	15.69*
Antisocial	8	173	1	80	1.71
Schizoid	1	180	1	80	.34
Paranoid	21	160	11	70	.204

**p>.05; **p>.01*

Rating Characters

Table 4.and Figure 2. show mean ratings for the personality disorders of happiness, success at work and satisfying relationships.

Ratings of Characters' "Happiness"

Mauchly's test indicated that assumptions of sphericity had been violated (χ^2=47.317, p<0.001) therefore, degrees of freedom were corrected using Huynh-Feldt estimates of sphericity. The results show that the differences in means of ratings for character "happiness" were significantly different between the personality disorders [F (5.745, 70.059), p <0,001]

Ratings of Characters' "Success at Work"

Mauchly's test indicated that assumptions of sphericity had been violated (χ^2=62.586, p<0.001) therefore, degrees of freedom were corrected using Huynh-Feldt estimates of sphericity. The results show that the differences in means of ratings for character "success at work" were significantly different between the personality disorders [F (5.626, 163.919), p<0,001]

Ratings of Characters' "Satisfying Relationships"

Mauchly's test indicated that assumptions of sphericity had not been violated (χ^2=25.410 p>0.001) therefore, sphericity was assumed. The results show that the differences in means of ratings for character "satisfying relationships" were not significantly different between the personality disorders [F (6, 24.769), p>0,001].

Table 4. Rankings of the mean ratings for character life dimensions

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

Personality disorders	Mean	SD
Narcissistic	2.98	.994
Paranoid	2.64	.959
Obsessive-compulsive	2.31	.910
Avoidant	2.02[a,b,c]	.939
Schizotypal	1.97[a]	.926
Antisocial	1.85[a,b,c]	.951
Borderline	1.78[a,b]	.962

Scale: from 1 (not at all) to 5 (a great deal) (n= 229). 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 ratings for character 'satisfying relationships' for the personality disorders

Personality disorders	Mean	SD
Narcissistic	$2.5^{b,c}$	1.051
Obsessive-compulsive	$2.28^{b,c}$	.965
Paranoid	2.26^{c}	.895
Schizotypal	1.95^{a}	.968
Antisocial	1.91^{a}	.926
Avoidant	1.90^{a}	.983
Borderline	1.84^{a}	.973

Scale: from 1 (not at all) to 5 (a great deal) (n= 222). 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 $p<0.01$).

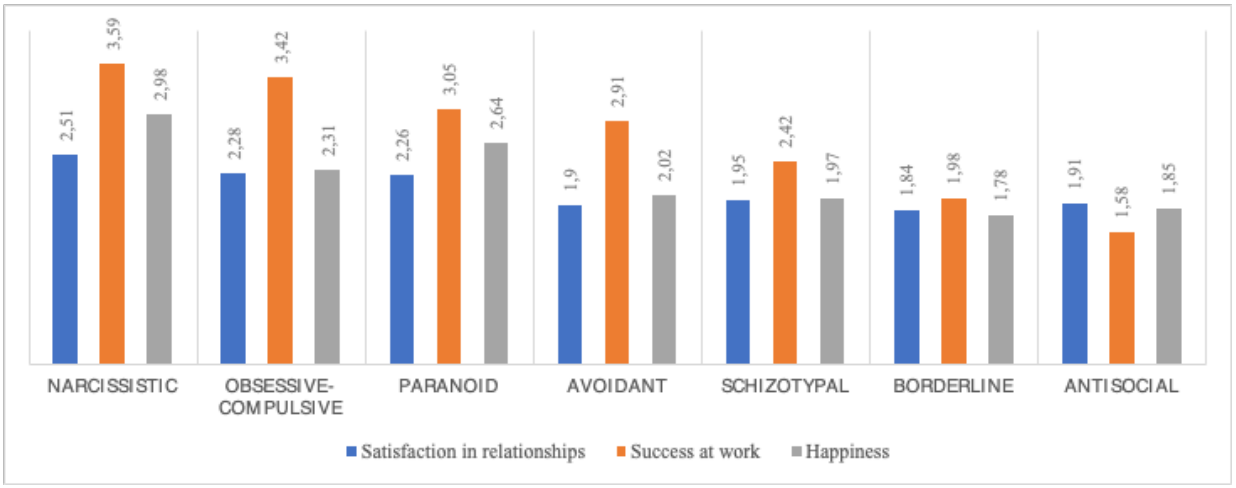
c Ranking of the mean ratings for character 'success at work' for the personality disorders

Personality disorders	Mean	SD
Narcissistic	3.59^{a}	.999
Obsessive-compulsive	3.42^{a}	1.082
Paranoid	3.05	.974

Avoidant	2.91	1.017
Schizotypal	2.42	.901
Borderline	1.98	.953
Antisocial	1.58	.924

Scale: from 1 (not at all) to 5 (a great deal) (n= 222). 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 $p<0.01$).

Figure 2. Lay ratings (mean cores) of characters' "satisfaction in relationships", "success at work" and "happiness".



Multi-Cultural Differences in Rating Characters

Ratings of Characters' "Success at Work"

There were significant differences (t (260) = 2.877, $p < .01$) in the scores for avoidant PD with mean score for Turkish participants (M = 3.03, SD = 1.040) was higher than and Italian participants (M = 2.64, SD = 0.913). The magnitude of the differences in the means (mean difference = 0.386, 95% CI: 0.12 to 0.65) was significant.

There were significant differences (t (254) = 2.447, p = 0.015) in the scores for obsessive-compulsive PD with mean score for Turkish participants (M = 3.53 SD = 1.105) was higher than and Italian participants (M = 3.18 SD = 0.991). The magnitude of the differences in the means (mean difference = 0.353, 95% CI: 0.069 to 0.638) was significant.

There were significant differences (t (186.123) = 3.543, p< 0.001) in the scores for schizotypal PD with mean score for Turkish participants (M = 2.56 SD = 0.938) was higher than and Italian participants (M = 2.15 SD = 0.757). The magnitude of the differences in the means (mean difference = 0.404, 95% CI: 0.179 to 0.629) was significant.

Ratings of Characters' "Happiness"

There were significant differences (*t* (223.700) = 2.717 *p* = 0.007) in the scores for borderline PD with mean score for Turkish participants (*M* = 1.87 *SD* = 1.056) was higher than and Italian participants (*M* = 1.57 *SD* = 0.673). The magnitude of the differences in the means (mean difference = 0.299, 95% *CI*: 0.082 to 0.516) was significant.

There were significant differences (*t* (223) = 2.260 *p* = 0.025) in the scores for paranoid PD with mean score for Turkish participants (*M* = 2.74 *SD* = 0.977) was higher than and Italian participants (*M* = 2.44 *SD* = 0.896. The magnitude of the differences in the means (mean difference = 0.302, 95% *CI*: 0.039 to 0.565) was significant.

Ratings of Characters' "Satisfying Relationships"

There were significant differences (*t* (167.478) = 2.070 *p* = 0.040) in the scores for obsessive-compulsive PD with mean score for Turkish participants (*M* = 2.36 *SD* = 0.987) was higher than and Italian participants (*M* = 2.10 *SD* = 0.894). The magnitude of the differences in the means (mean difference = 0.258, 95% *CI*: 0.12 to 0.504) was significant.

Predictors of literacy

We found a negative correlation between age and mental health literacy, specifically for narcissistic personality disorder ($r = -.278$, $p < 0.01$), obsessive-compulsive personality disorder ($r = -.221$ $p < 0.01$) and borderline personality disorder ($r = -.152$ $p < 0.05$). Females performed better than males in correctly labelling the narcissistic PD ($\chi^2 = 29{,}777$, $p < 0{,}05$).

We found that having had treatment for a psychological illness is a positive predictor for borderline PD ($\chi^2 = 8.936$, $p < 0.05$) and narcissistic PD ($\chi^2 = 14.691$, $p < 0.05$). Also knowing someone who had treatment was a positive predictor of obsessive-compulsive ($\chi^2 = 7.077$ $p < 0.05$), narcissistic ($\chi^2 = 4.442$, $p < 0.05$) and paranoid ($\chi^2 = 6.247$, $p < 0.05$) PDs.

Discussion:

Our first prediction was that participants from different ethnicities would show different level of success in labelling personality disorders correctly. This was correct for one case only; Italian participants were more successful than Turkish participants in labelling narcissistic personality. Our study does not investigate "why" there is a difference between two cultures specifically on narcissistic disorder, but this result might be a starting ground for further research. Are there cultural-contextual differences in Italy that makes its participants more receptive to recognizing narcissism?

Our second prediction was that regardless of ethnicity lay people would fail to label the vignettes correctly and for all vignettes this prediction was proven to be correct. Only less than quarter of participants were able correctly label narcissistic personality disorder. Yet majority of participants were able to recognize the presence of a mental health problem. So, our result find that lay people are receptive to mental health issues yet fail to label them with

the correct scientific label. Borderline personality disorder was recognized as having a mental issue by 91.6% of the participants, only 4.6% were able to correctly label it. This is very troubling because borderline disorder is one of the most prevalent personality disorders and people can recognize the presence of a problem but cannot name it or label it with symptoms or non-specific labels. On one hand, we can say that lay people's ability to recognize the presence of a mental illness can be a sign that an intervention will be successful. On the other hand, people are surrounded with personality disorders, yet they go blindly without knowing exactly what is wrong. Later in the discussion I will talk about this problem in more details.

Our third prediction was that younger participants would perform better at recognizing and labeling personality disorders. This prediction was informed by Furnham's previous study (Furnham & Winceslaus, 2011). Mean age of participants in Furnham's study was 26.65, our present study has a mean participant age of 44.18. Our participants were older in age because we had access to older age groups through personal contacts. We found that older participants were worse than younger participants when labeling narcissistic personality disorder, obsessive-compulsive disorder, and borderline personality disorder. This can be attributed to the current popularity of above-mentioned personality disorders in the media. Young people may be more informed about these personality disorders, since information about these personality disorders are available on social media and younger demographic tend to populate social media more than older age people.

Our fourth prediction was having a personal history with mental health treatment such as having had treatment personally or having known someone who had treatment would make the participant more able in their ability to recognize and label mental health disorders. Our prediction that having had treatment would positively impact their ability to label and recognize was successful for borderline personality disorder and narcissistic personality disorder. These results may be due to popularity and high prevalence of these two personality

disorders. In addition, knowing someone who had treatment was a predictor for better performance at recognizing and labeling obsessive-compulsive, narcissistic and paranoid personality disorders. Why did personal treatment and knowing someone who had treatment showed to be predictors of performance for different personality disorders?

Our fifth prediction was that ratings of life dimensions for personality disorders would show differences between two cultures. We meant that Turkish participants and Italian participants had different perceptions of personality disorders. We found significant differences for all three categories. Turkish participants were more generous when rating character's life dimensions than Italian participants in all the significant results. Turkish participants' "success at work" ratings for avoidant, obsessive and schizotypal personality disorders were significantly different than Italian participants. Could this be because that when it comes to being "successful at work" Turkish culture favors traits such as introversion or shyness that can be related to avoidant and schizotypal personality disorders more than Italian participants? Turkish participants rated borderline and paranoid personality disorders higher when rating for character "happiness". For character's "satisfying relationships" Turkish participants rated obsessive-compulsive higher in happiness than Italian participants did. Obsessive-compulsive person was described as very successful in their jobs yet as having a failing personal life. Could it be that Turkish participants perceive success at work as a greater source of happiness than Italian participants?

Our results can be useful for designing outreaching activities aimed at improving help-seeking behavior for lay people. If lay people can recognize and identify a personality disorder, they can take actions leading to early intervention and prevention of personality disorders.

One striking result was for borderline personality disorder. 91.6% of lay people recognized the presence of a mental illness yet only 4.6% knew what it was. Now imagine, a parent raising an adolescent child with borderline personality disorder. This mother has a sense that something is wrong with her child, but she cannot put her finger on it, she can't tell exactly what is it that her child is going through. Her lack of knowledge may lead her to passivity, confusion and finally she may be reluctant to act; she may decide to wait and see through if her child heals and changes over-time. This young person would go into adulthood where treating personality disorders becomes challenging. One parent's lack of knowledge would lead to life-long struggles. In this case, unless this parent is educated on personality disorders and mental health, this cycle would keep repeating itself and many young children would enter a life full of struggles without a change to receive help in time when they are more receptive to treatment. Image how many parents and how many young children go through tough times without being able to identify their problems and pain it causes them. Therefore, it is crucial to identify and educate groups that are showing low mental health literacy. Through education we can promote health-seeking behaviors and actions leading to early-intervention and prevention, helping people, and maybe aiding them in avoiding life-long struggle.

I acknowledge that there needs to be further research to investigate reasons that lead to cultural differences. I firmly believe our findings are a great start for future research, sparking curiosity. Following the lead of findings, we can ask questions that lead to the source of the differences. I hope this research, first of its kind in both countries, allows a space for curiosity to grow between two cultures and this curiosity develops branches into other cultures, for the richness of human culture is infinite and it will make our lives a more interesting place when we recognize its differences as well as its similarities. Maybe understanding our differences will make us realize how similar we are.

Limitations:

This study is a partial study on personality disorder literacy given that we have removed three personality disorders for accessibility. In the future a more complete study can be conducted with 10 personality disorders. Also, this study has a relatively small sample and an unbalanced number of participants from two different cultures. The sample may not be representative of the general population. Vignettes were developed without regarding cultural contexts differences, therefore new vignettes that acknowledge cultural context and difference can change the results and increase the validity of this research.

Implications:

This is the first personality disorders literacy test conducted in Italy and Turkey. As the results show very low mental health literacy, this study can be used as a starting point for taking appropriate actions to improve mental health literacy of lay people. Also, this study goes on to show that most lay people can recognize the presence of a mental illness, contradicting the previous research on this topic (Furnham & Winceslaus, 2011).

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Appendix

Table S1. Ranking of participant labels

a Ranking of labels for schizotypal personality disorder

Label category	Answer, %
None	51.1
Other / Non-specific[i]	25.2
Denial of reality	8.8
Schizophrenia	8.4
Loneliness	6.5
Insecurity/lack of confidence	6.1
Depression	5.8
Loss of/Dependence to mother	4.5
Anxiety/fear	3.4
Paranoia	3.1
Asocial	2.7
Other personality disorders	2.3
Schizoid	1.5
I don't know	1.1
Schizotypal	0.8

[i]Examples: 'longing', 'in mother's womb'

b Ranking of labels for paranoid personality disorder

Label category	Participants, %
None	48.9
Trust issues	18.3
Skepticism/skeptical	12.2
Other/non-specific	11.1
Paranoia/paranoid	9.9
Insecurity/lack of confidence	4.6
Paranoid personality disorder	2.7
Schizophrenia	1.2
I don't know	0.8

[i]Examples: 'spiritual problems', 'immature personality'

c Ranking of labels for antisocial personality disorder

Label category	Participants, %
None	48.9
Other / non-specific	20.6
Family dysfunction trauma/father-mother issue	11.9
Lying/mythomania	6.9
Rebelliousness/lack of authority	4.6
Sociopath/psychopath	3.1
Insecurity/lack of confidence	3.1
I don't know	2.7

Violence/anger	2.7
Loneliness	2.3
Behavioral disease	2.3
Antisocial personality disorder	1.9
Depression	1.9
Unspecified personality disorder	1.9
Criminal disposition	1.6
Anti-social	1.5

[i]Examples: ‘piece of shit’, ‘adaptation’

d Ranking of labels for borderline personality disorder

Label category	Participants, %
Other / non-specific	29.3
None	26.3
Bipolar	12.3
Unbalanced/unhappy	7.7
Other/unspecified personality disorders	7.7
Depression	7.2
Insecurity/lack of confidence	5.4
Borderline personality disorder	4.6
Anger/violence	3.4
Trust issues	1.9

Trauma	1.9
I don't know	1.5

[i]Examples: 'thoughtless', 'personality breakdown'

e Ranking of labels for narcissistic personality disorder

Label category	Participants, %
None	32.4
Narcissism/narcissistic	19.5
High ego/self-centeredness/megalomaniac	13.4
Selfishness / egoist	11.1
Other/non-specific	11.1
Arrogance/vanity	5.3
Approval/attention- seeking	5.0
Narcissistic personality disorder	3.4
Unspecified/other PD	1.9
I don't know	1.5

[i]Examples: 'loser mentality', 'pessimism'

f Ranking of labels for avoidant personality disorder

Label category	Participants, %
Insecurity/low self-esteem	35.1

None	24
Anxiety/anxiety disorder/social anxiety	11.8
Other/non-specific[i]	11.1
Communicational/relational problems	6.5
Trust issues	6.5
Asocial	4.2
Skeptical/paranoid	3.9
Introversion/shyness	3.8
Trauma	2.7
Unspecified personality disorder	2.3
Antisocial	1.1
I don't know	1.1

[i]Examples: 'needs therapy', 'complex'

g Ranking of labels for obsessive-compulsive personality disorder

Label category	Participants, %
None	35.9
Perfectionism/perfectionist	21.4
Other/non-specific[i]	14.5
Control freak/control issues	9.2
Obsessive-compulsive	6.5
Obsessed/obsessive/obsession	4.6

Workaholic	3.8
Anxiety	2.7
Insecurity	2.7
Obsessive-compulsive personality disorder	1.9
I don't know	1.9

[i]Examples: 'knows all', 'caring too much for little things'