

Citation

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Mental health literacy in Ghana: Implications for religiosity, education and stigmatization

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Abstract

Research on Mental Health Literacy (MHL) has been growing internationally. However, the beliefs and knowledge of Ghanaians about specific mental disorders have yet to be explored. This vignette study was conducted to explore the relationships between religiosity, education, stigmatization and MHL among Ghanaians using a sample of laypeople (N 409). The adapted questionnaire presented two vignettes (depression and schizophrenia) about a hypothetical person. The results revealed that more participants were able to recognize depression (47.4%) than schizophrenia (15.9%). Religiosity was not significantly associated with recognition of mental disorders but was positively associated with both social and personal stigma for depression, and negatively associated with personal and perceived stigma for schizophrenia. Moreover, education was found to be positively associated with disorder recognition, and negatively with perceived stigma. Finally, perceived stigma was positively associated with disorder recognition, whereas personal stigma for schizophrenia related negatively to recognition of mental disorders. In conclusion, education but not religiosity predicted identification accuracy, but both predictors were associated with various forms of stigma. Findings from this study have implications for MHL and anti-stigma campaigns in Ghana and other developing countries in the region.

Keywords

depression, indigenous psychiatry in Ghana, mental health literacy, religiosity, schizophrenia, stigmatization

Introduction

Mental health problems are common in most countries; according to a report by the World Health Organization (WHO, 2001), 25% of any population will suffer from a psychiatric condition in their lifetime. Studies have revealed that not being able to recognise a mental health condition can lead to delays in seeking professional help (Gulliver, Griffiths, & Christensen, 2010). Public prejudice towards those with mental illness is also common, even among the educated populace in the Western world (Corrigan & Watson, 2002). However, a population that has evidence-based knowledge about mental health issues (i.e., that possesses high levels of mental health literacy) presumably may be more likely to initiate preventative and early treatment interventions, and show less stigmatizing attitudes (e.g., see Wright, Jorm, Harris, & McGorry, 2007; Kitchener & Jorm, 2006).

Mental Health Literacy (MHL) is a term coined by Anthony Francis Jorm and his colleagues during the mid-1990s in Australia when they recognized that

literature on public knowledge of mental illness was lacking. They defined MHL as individuals' knowledge and beliefs about mental illnesses, which may help them identify, manage and possibly prevent such conditions. This information could help people approach mental health holistically and includes knowledge about: (a) prevention strategies; (b) one's ability to identify the development of a specific mental disorder; (c) effective self-help strategies for mild-to-moderate mental disorders; and (d) first aid strategies needed to help individuals at the onset of mental disorders (Jorm et al., 1997). The current study is focused on

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disorder recognition, specifically of depression and schizophrenia.

Although MHL has been studied extensively in Western countries, little is known about the public's attitude towards mental disorders in developing countries and how people label and explain such illnesses. More specifically, only scant data is available about how universally prevalent mental disorders, such as major depression and schizophrenia, are understood in sub-Saharan Africa (Hugo, Boshoff, Traut, Zungu-Dirwayi, & Stein, 2003). Related sociodemographic variables, such as stigma, religiosity and education levels, plausibly play a role in how these disorders are recognized according to the general literature, to which we now turn.

Disorder recognition: Depression and schizophrenia

Although about 297 disorders exist in the DSM-5 (American Psychiatric Association [APA], 2013), the two disorders most frequently studied in international MHL research appear to be schizophrenia and depression (see Jorm, 2012). This preference may have to do with the universality of these two disorders, found in various cultural settings around the world (Heine, 2015). Both disorders are also highly researched and contribute significantly to disability, caregiver and economic burden and have been associated with stigma in various settings (e.g., see Ahmed, Bruce, & Jurcik, 2018; Nersessova, Jurcik, & Hulsey, 2019; Chong et al., 2016). Previous studies found that differences exist between disorders when it comes to their recognition, with correct identification rates for depression tending to be higher compared to schizophrenia in public surveys. Jorm and colleagues (2005) reported that over 75% of Canadians and Australians were able to correctly identify depression in a vignette. A study also revealed that more British participants were able to identify depression (72.7%) compared with schizophrenia (46.4%) (Sai & Furnham, 2013; see also Wright et al., 2005). Indeed, under-recognition of schizophrenia is common in most countries. Only 25% of young Australians (Wright, 2005) and 34.1% of Irish participants (O'Keeffe et al., 2015) were able to recognize schizophrenia. Moreover, a study conducted in South Africa revealed that 94% nurses were not able to correctly recognize various disorders, including schizophrenia (Dirwayi, 2002). Despite some of these concerning statistics, some work is being carried out on enhancing MHL in sub-Saharan Africa, with at least some partial success (e.g., Kutcher et al., 2015, 2017, 2019).

The varying recognition rates may be partly due to cultural differences among the various groups within which the studies were conducted. Different groups

have different conceptions of malaise, and ways or idioms of expressing psychiatric distress (APA, 2013; Heine, 2015; Kirmayer, 2001). For instance, it is well known that people in certain contexts, such as East Asia, may predominantly report somatic symptoms, while others in Western settings may focus more on psychological symptoms (see Kirmayer, 2001; Ryder et al., 2008). In other cases, symptoms may be partially or fully denied altogether due to concerns about being negatively evaluated (Kirmayer, 2001; Turvey, Jogerst, Kim, & Frolova, 2012). Elevated levels of internalized stigma may hinder the acquisition of knowledge about mental disorders (Corrigan, 2004). Given the relative dearth of research in sub-Saharan Africa (cf. Kutcher et al., 2015) we focus more on Western findings on recognition rates and how these are related to variables such as religiosity, education and stigma.

Mental Health Literacy, stigma, religiosity and education

Stigma towards mentally ill patients has been found to be a barrier for patients and relatives to fully enjoy their relationships with others, to be gainfully employed, to utilize mental health services and to participate in other societal activities (Amering & Schmolke, 2009; Barke, Nyarko, & Klecha, 2011; Satcher, 2000). Some researchers discovered that participants who are able to recognize mental illness presented in a vignette exhibited less stigmatizing attitudes towards the portrayed person (Hall, Brockington, Levings, & Murphy, 1993; Kitchener & Jorm, 2006; Sorsdahl & Stein, 2010; Thornton & Wahl, 1996). However, other researchers also found the reverse, where correct recognition of a particular mental illness was associated with greater stigmatizing attitudes towards such patients (Angermeyer & Matschinger, 2014; O'Keeffe et al., 2016; Peluso & Blay, 2009). These paradoxical findings suggest that there may be advantages and disadvantages associated with recognition as it pertains to stigma. Perhaps correct identification allows for cognitive access to corrective information about the disorder, including information about the potential for recovery and resilience; but at other times, it potentially may also lead to the activation of negative associations, such as the refractory nature of many disorders, and distorted beliefs about contagion and dangerousness (see Gulliver, et al., 2010; Nersessova et al., 2019).

Levels of general education have been found to predict higher levels of MHL among participants surveyed (Grossman, 2000; O'Keeffe et al., 2016). Nicola, Terence, and Jorm (2012) conducted a study among students and staff at a metropolitan university in Australia. Results from this study showed that one of

the predictors of correct recognition of depression was higher level of education. Similarly, Gorczynski, Sims-Schouten, Hill & Wilson (2017) assessed MHL among university students in the South of England. Researchers found that postgraduate students were more likely to exhibit higher levels of MHL than undergraduate students (see also Hall et al., 1993). Notwithstanding, most of these studies concentrated on the relationship between depression and education, and based on these findings, the current study will extend on this research by exploring the recognition rates of depression *and* schizophrenia in relation to educational levels.

Additionally, increased levels of education have also been found to correlate with reduced stigmatizing attitudes towards mentally ill patients (Alem, Kebede, Woldesemiati, Jacobsson, & Kullgren, 1999). People with higher education levels are likely to have been exposed to common psychiatric syndromes, as well as corrective information regarding mental illnesses, in their general readings, through dialectics and lectures, and even educational programs on the media including the internet (Hight, Luscombe, Davenport, Burns, & Hickie, 2006). A study conducted in the greater Athens area revealed that less educated participants exhibited higher levels of stigma compared to their more educated counterparts (Madianos, Ecnomou, Hatjiandreou, Pagageorgious, & Rogakou, 1999). In addition, Kabir, Iliyasu, Abubakar, and Aliyu (2004) noted that literacy rates correlated significantly with positive attitudes towards the mentally ill.

On the other hand, studies that have explored the relationships between stigma and religiosity among Ugandans (Quinn & Knifton, 2014), African Americans (Mutori & An, 2010), and Latino immigrants in the United States (Caplan et al., 2011) have shown a positive relation between these two constructs (i.e., increased levels of religiosity is associated with increased stigma). Thus, individuals who are more religious tend to exhibit more stigmatizing attitudes. Similarly, stigmatising attitudes were found to be higher among immigrant students in the USA who were more religious (Eisenberg, Downs, Golberstein, & Zivin, 2009). This pattern may be due to the religious belief that with faith one can overcome personal challenges, and thus individuals with mental illness may be perceived to lack such qualities; or relatedly, the illness may be attributed to punishment for sins by an omnipotent deity (see Isaiah 41:10).

Thus, a study conducted by Crabb et al. (2012) in Malawi revealed that 82% of the respondents believed that mental illnesses were caused by supernatural forces. Leavey (2008) reported that millions of British people first consult religious leaders when faced with mental disorders. Perhaps most concerning are studies

conducted by BBC News (2018) and Taylor (2016). These researchers found that caretakers of mentally ill patients at a prayer camp in Ghana chain and beat patients. The reasons these religious caretakers gave for such treatments were that they believed the patients to be possessed by spirits, and as such, the spirits needed to be beaten out from these patients.¹ They concluded that certain religious beliefs lead to an accumulation of poor knowledge about mental illness (see also Ae-Ngibise et al. 2010; Asamoah, Osafo, & Agyapong, 2014; Leavey, 2008). Consequently, religiosity can be seen as a value that can influence MHL. Overall, it appears that these three predictors of MHL – stigma, education and religiosity – are likely to play a central role in African countries such as Ghana, due to the religious nature of these traditional societies whose populations have variable access to Western secular media and education, as well as exposure to biopsychosocial understandings of mental illness.

Ghana and Mental Health Literacy

Ghana, the focus of the current study, has a population of about 25 million people (Nortey, 2013). WHO (2011) estimated that approximately 650,000 (3%) individuals in Ghana suffer from severe mental disorders and over two million people (8%) suffer from mild to moderate mental disorders. The lack of facilities and personnel in the area of mental health in Ghana are some of the significant challenges to the delivery of care. That is, Ghana has only three psychiatric hospitals; all are found in the southern part of the country, which is more urbanized. As of 2011, there were only 18 psychiatrists, 19 psychologists, and approximately 1,600 registered mental health nurses in Ghana (Asare, 2012).

In the light of these limitations, Ghana has initiated campaign programs supporting mental health in recent years. Thus, the Mental Health Act ([MHA], 2012) focuses on providing quality mental health care to Ghanaians and was also designed to combat stigma and other discriminatory attitudes towards the mentally ill. Meanwhile, there is limited literature in this area to help stakeholders to effectively execute their activities. Thus, the available literature in this area has over the years concentrated mostly on accessing the knowledge of Ghanaians on the causes and treatment options for psychiatric problems. These studies have provided corroborating evidence for spiritual attributions and treatments of mental illnesses among the general population (Ae-Ngibise et al., 2010; Kwaku-Nuako & Dankwah, 2012). That is, MHL research in Ghana to date has emphasized causal attributions and treatment options of mental illness. However, the recognition accuracy (i.e., a core component of MHL) of

Ghanaians for specific mental disorders is yet to be assessed.² One of the few studies on disorder recognition conducted on the African continent revealed that the majority of *nurses* (94%) surveyed in South Africa were unable to identify specific mental disorders (Dirwayi, 2002; also see a review by Atilola, 2015). Given that purportedly educated healthcare professionals had notable difficulty identifying a universal mental illness, this begs the question: how would the general population in Africa fare?

The Ghanaian population is known to be highly religious. Religion is a powerful social tool in every aspect of Ghanaian life (Jnr (2013)). The majority of Ghanaians (94%) belong to the three major religious groups in Ghana (Christianity, Islamic, and Traditional³) (GSS, 2012). Most Ghanaians attribute mental problems to spiritual causes, and prefer to contact a religious group when faced with mental health problems (Ae-Ngibise et al., 2010). Some religious homes in Ghana engage in highly punitive treatments of people with mental illnesses such as beating and chaining of patients (Atindanbila & Thompson, 2011; BBC News, 2018; Taylor, 2016). These findings suggest that religiosity may be associated with poor MHL and stigmatization.

Aims and hypotheses

Overall, certain relations are revealed in the general MHL literature: (1) recognition of depression tends to be higher in most populations compared with schizophrenia; (2) a positive relationship between religiosity and stigmatization; (3) high religiosity is associated with poor MHL; (4) finally, levels of education correlate with reduced stigma, and increased levels of MHL. However, whether the religious nature of Ghanaians or their level of education helps or hinders their abilities to accurately recognize a specific mental illness or contributes to stigmatizing attitudes has not yet been investigated. Such a topic of research is also of interest theoretically and practically, given the inconsistent

results in the extant literature between MHL and stigmatization. Hence, the current study seeks to explore the relationships between religiosity, education, stigmatization and MHL in Ghana. Findings from this study have implications for MHL and anti-stigma campaign programs internationally, in Ghana and beyond.

Accordingly, we predicted that in Ghana: (H1) recognition of depression should be higher than recognition of schizophrenia; (H2) correct identification of the mental illnesses (depression and schizophrenia) presented in the vignette should be associated with less stigmatizing attitudes; (H3a) education should be associated with high MHL (recognition of depression and schizophrenia); (H3b) levels of education should relate with less stigmatizing attitudes; (H4a) high religiosity should be associated with high stigmatizing attitudes; (H4b) religiosity should be associated with greater inaccuracy in identifying the mental illness (depression and schizophrenia) presented in the vignettes. These relations are portrayed in Figure 1.

Methods

Participants

The sample comprised 409 participants aged from 18 to 61 ($M_{age} = 27.6$, $SD = 5.4$) and 64.8% ($n = 265$) of the sample was male, 33.7% ($n = 138$) was female, and 0.5% ($n = 2$) did not specify their sex. Table 1 summarizes demographic information.

Procedure

The researchers obtained ethical approval from the National Research University Higher School of Economics. Data was collected using snowball sampling through the use of various online communication mediums (e.g., Facebook, WhatsApp, email and Twitter). Although local dialects are widespread in Ghana, English is the official language in Ghana and is also used as the medium of instruction in the

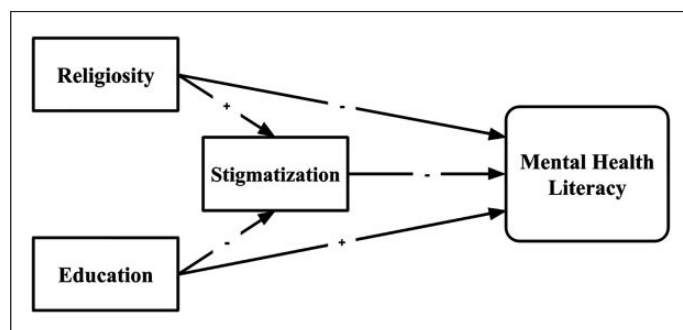


Figure 1. Hypothetical path model of the relationships between religiosity, education, stigmatization and Mental Health Literacy (recognition of depression and schizophrenia).

Table 1. Sociodemographic characteristics for participants (N = 409)

	Frequency	Percent (%)
Gender		
Male	265	64.8
Female	138	33.7
Prefer not to specify	2	0.5
Total	405	99.0
Religious affiliation		
Christian	390	95.4
Muslim	13	3.2
Traditional	1	0.2
Total	404	98.8
Salary range		
GHS500 – below (\$100 – below)	88	21.5
GHS500 – GHS1,000 (\$100 – \$200)	70	17.1
GHS1,000 – GHS2,000 (\$200 – \$400)	111	27.1
GHS2,000 – GHS5,000 (\$400 – \$1000)	49	12.0
GHS5,000 – above (\$1000 – above)	15	3.7
Total	333	81.4
Occupation		
Education	111	27.1
Health	32	7.8
Financial	35	8.6
Self-employed	26	6.4
Administration	24	5.9
Unemployed	19	4.6
Student	87	21.3
Others (engineering, internee, clergy, security)	34	8.3
Total	368	90.0
Education		
Junior high school leavers (JHS)	2	0.5
Senior high school graduates (vocation/technical)	39	9.5
Bachelor's degree/Higher National Diploma (HND) holders	296	72.4
Master's degree/PhD	60	14.6
Total	397	97.1

Table 2. Correlation Matrix for Religiosity, Education, Stigmatization, and Mental Health Literacy

	1	2	3	4	5	6	7	8	9	10
1. E	—	.44**	.02	-.11*	.01	-.08	.02	-.05	-.09	.42**
2. Dr		—	.04	.05	-.01	-.12*	.01	.06	-.02	.30**
3. R			—	-.09	-.07	-.13*	.15**	.03	.07	.01
4. PS				—	.16**	.33**	.02	.41**	.13**	.02
5. SSS					—	.01	.48**	.07	-.03	.10*
6. PSS						—	-.18*	-.01	.18**	-.17*
7. SSD							—	.21**	.08	.10*
8. PD								—	.33**	.07
9. PSD									—	-.07
10. Sr										—

Note: * $p < .05$; ** $p \leq .01$; E = Education, R = Religiosity, D = Recognition of depression, S = Recognition of schizophrenia, PSD = Personal stigma for depression, PD = Perceived stigma for depression, SSD = Social stigma for depression, PSS = Personal stigma for schizophrenia, PS = Perceived stigma for schizophrenia, SSS = Social stigma for schizophrenia.

Ghanaian education system; thus, the questionnaires were presented in English language only. Individuals and organizations known to the first author who were currently residing in Ghana were invited to participate in the anonymous survey and/or were asked to forward the link of the survey to others they knew. After completing some basic demographic questions (gender, age, salary range, educational qualification, occupation and religious affiliation), the participants proceeded to the measures.

Measures

The study adapted the online Computer-Assisted-Telephone-Interview (CATI) scale developed by Reavley and Jorm (2011) to measure MHL and stigmatization. Although it is an interview scale, the current researchers modified the CATI to a survey format uploaded to an internet-based platform (SelectSurvey.net). This questionnaire was chosen because the vignettes are used in numerous international studies of MHL (e.g., Yoshioka, Reavley, Mackinnon, & Jorm, 2014; Jorm, Christensen, & Griffiths, 2006). The current study used two vignettes (one for schizophrenia and one for depression) for the same participants. The name “John” was used in the depression vignette and “Peter” was used in the schizophrenia vignette, as these are common names used in Ghana, which are considered to be tribal-free.⁴

Participants read vignettes depicting a hypothetical person exhibiting symptoms of a mental illness. After this scenario, participants are asked: “*What, if anything, is wrong with the person?*” Participants were then required to provide their own impression for this hypothetical person using an open-ended response.

Social stigma. Five items using a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) measured participants’ willingness to interact in a social setting with hypothetical persons with mental disorders depicted in the vignettes. Sample item includes: “*Would you be happy to go out with Peter/John on the weekend?*” The current study yielded a good to excellent Cronbach’s alpha for depression ($\alpha = .88$; $M = 3.67$, $SD = 0.85$) and for schizophrenia ($\alpha = .91$; $M = 3.40$, $SD = 0.93$).

Personal stigma. Five items using a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) measured the personal attitudes of participants towards the hypothetical persons in the vignettes. Sample item includes: “*John/Peter could recover if he wanted.*” The internal reliability coefficient was moderately reliable (Hinton, Brownlow, McMurray, & Cozens, 2004) for depression ($\alpha = .51$; $M = 3.17$, $SD = 0.67$), and for schizophrenia ($\alpha = .61$; $M = 2.57$, $SD = 0.72$).

Perceived stigma. The perceived stigma covered the same statements like that of personal stigma but

sentence stems started with “*Most other people believe that... .*” In other words, what participants perceive are the attitudes held in the community or society at large towards the hypothetical persons in the vignettes. Five items for depression and seven items for schizophrenia with 5-point Likert scales (1 = *strongly disagree*, 5 = *strongly agree*) measured perceived stigma. Internal reliability coefficients for both depression ($\alpha = .71$, $M = 3.23$, $SD = 0.74$) and schizophrenia ($\alpha = .75$, $M = 3.32$, $SD = 0.72$) were acceptable.

Religiosity. The current study adapted the Centrality of Religion Scale (CRS-15 version) (Huber & Huber, 2012) to measure religiosity. The CRS was used due to its excellent internal reliability and construct validity obtained in previous research. 15 items with a 5-point Likert scale (1 = *not at all*, 5 = *very much so*) cover various aspects of religiosity such as religious practice, religious affiliations, and religious belief. Since the current study was interested in religious belief, only five relevant items were used. A sample item is: “*To what extent do you believe that God or something divine exist?*” Despite its brevity, the scale in the current study showed excellent internal reliability ($\alpha = .88$, $M = 4.50$, $SD = 0.67$).

Data analysis

SPSS version 21 and R (i.e., *lavaan* package, version 0.6-3.1288) software packages were used to analyze data. The first hypothesis was tested using a chi-square test of independence. Correlational analysis was also performed to examine the associations between all variables. The subsequent hypotheses (H2 through H6) were tested using Structural Equation Modeling (SEM), using *lavaan* package in R (Rosseel, 2012). SEM is beneficial as it helps to prevent Type 1 error (Green & Babyak, 1997). During the SEM computation, missing data were not imputed. As a result, data from 393 participants out of the total of 409 participants were used. Diagonally Weighted Least Squares (DWLS) estimator, which is specifically designed for ordinal data, was used. The outliers were winsorized to 3.3 SD from the mean with rank order preserved, a method used in similar research (Nersessova et al., 2019). Correct identification of mental disorders was based on participants’ ability to provide the correct diagnosis for either of the two disorders (i.e., *major depression* for case 1 or a close variation such as *depression*, and *schizophrenia* for case 2 or a close variation such as *schizophrenic psychosis*). All other responses, including absent responses, were classified as incorrect.

Results

A chi-square distribution showed that more participants were accurate in recognizing depression (47.4%, $n = 194$) than schizophrenia (15.9%, $n = 65$),

$\chi^2(1, N=409) = 36.05, p < .001$. Nonetheless, accuracy ratings were below 50% for both disorders (H1).

The zero-order correlations between all variables are depicted in Table 3.

The hypothesized path model appeared to be an adequate fit, $\chi^2(6, N=393) = 15.68, p = .016$; CFI = .983, RMSEA [95% CI] = .064 [.026, .104], WRMR = .052 and did not request any *post hoc* modifications. Figure 2 portrays path coefficients.

Results from the Structural Equation Model on the relationship between Religiosity, Education, Stigmatization, and Mental Health Literacy are depicted in Table 3.

Table 3. Results from the structural equation model on the relationship between religiosity, education, stigmatization and Mental Health Literacy.

		B	b	z	p	SE B	R ²
PSD	R	1.00	.10	2.07	.04	0.05	.02
	E	-0.06	-.08	1.31	.19	0.05	
	Dr	-0.03	=.05	0.64	.52	0.04	
PD	R	0.03	.03	0.53	.60	0.05	.02
	E	-0.12	-.14	0.14	.03	0.06	
	Dr	0.11	-.17	2.43	.02	0.04	
SSD	R	0.13	.10	2.36	.02	0.05	.01
	E	0.05	.06	0.87	.39	0.06	
	Dr	-0.02	-.03	0.35	.73	0.05	
PSS	R	-0.17	-.16	3.40	<.001	0.05	.11
	E	1.00	-.12	1.47	.14	0.07	
	Sr	-0.20	-.35	3.89	<.001	0.05	
PS	R	-0.10	-.10	2.26	.02	0.04	.05
	E	-0.21	=.25	2.88	<.001	0.07	
	Sr	0.13	-.24	2.19	.03	0.06	
SSS	R	-0.08	-.06	1.26	.21	0.07	.02
	E	-0.08	=.07	0.88	.38	0.09	
	Sr	0.10	-.14	1.39	.17	0.07	
Dr	R	-0.04	-.02	-0.40	.69	0.09	.31
	E	0.77	.55	8.52	<.001	0.09	
Sr	R	0.03	.02	0.24	.81	0.13	.41
	E	0.96	.64	10.78	<.001	0.09	

Note: Model fit: $\chi^2(6, N=393) = 15.68, p = .016$; CFI = .983, RMSEA [95% CI] = .064 [.026, .104], WRMR = .052; E = Education, R = Religiosity, D = Recognition of depression, S = Recognition of schizophrenia, PSD = Personal stigma for depression, PD = Perceived stigma for depression, SSD = Social stigma for depression, PSS = Personal stigma for schizophrenia, PS = Perceived stigma for schizophrenia, SSS = Social stigma for schizophrenia.

Results from the SEM (see Figure 2) revealed that personal stigma for schizophrenia related with less recognition of schizophrenia (H2). However, unexpectedly, other forms of stigmas, like perceived stigma, correlated with high recognition of both depression and schizophrenia. Further, personal stigma for depression, social stigma for both depression and schizophrenia had no significant relations with recognition of the mental disorders presented in this study. Additionally, education was associated with increased recognition of both depression and schizophrenia (H3a). Both perceived stigma for depression and schizophrenia were inversely related with education (H3b). Nevertheless, the other indicators of stigma (i.e., social and personal stigma for both depression and schizophrenia) had no significant associations with education. Moreover, personal, and social stigma for depression were associated with high religiosity (H4a). Unexpectedly, personal stigma and perceived stigma for schizophrenia were associated with reduced religiosity. Finally, results from the SEM (see Figure 2) revealed no significant relationship between religiosity and MHL (H4b).

Discussion

Recognition rates

The current study attempted to examine the relationship between MHL, education, stigmatisation and religiosity within the Ghanaian context. Our hypotheses were partly supported. Considerable evidence supports the claim that recognition of depression in many populations is higher compared to the recognition of schizophrenia (e.g., Jorm et al., 2005; O'Keeffe et al., 2015; Wright et al., 2005), which was also corroborated in the current study. The large proportion of participants who under-recognized schizophrenia make the current study findings consistent with those obtained in a study conducted in South Africa (Dirwayi, 2002). Unexpectedly, about 94% of South African nurses were not able to recognize schizophrenia compared to 84% in the current study, although there are clear disparities in the types of samples used between in the two studies. In contrast, some researchers found results contrary to the current study and reported that the recognition rate for schizophrenia was higher than the rate for depression (Bener & Ghuloum, 2011), although these findings are in the minority.

Some of the differences in recognition rates could stem from the fact that depression is more common in most populations than schizophrenia (see APA, 2013). Particularly, Thapa and colleagues (2014) reported that the lifetime prevalence rate of depression among Ghanaian adults was 6.7%. Depression also

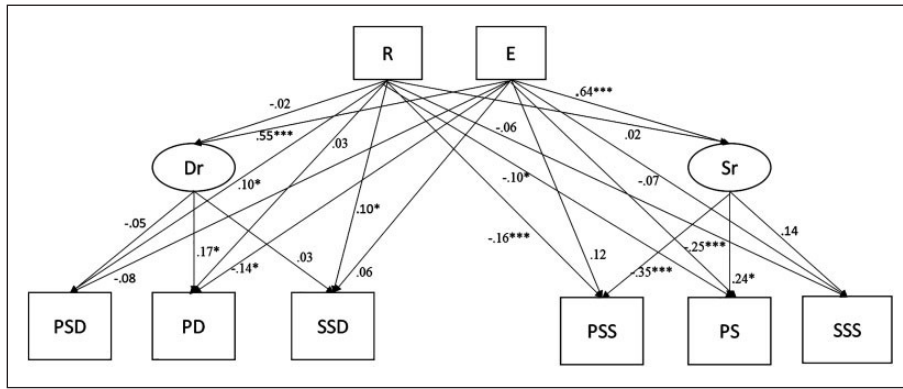


Figure 2. Path diagram of the relationships between religiosity, education, stigmatization and Mental Health Literacy. Note: * $p < .05$, ** $p \leq .01$, *** $p \leq .001$; Model fit: $\chi^2(6, N = 393) = 15.68, p = .016$; CFI = .983, RMSEA [95% CI] = .064 [.026, .104], WRMR = .052; E = Education, R = Religiosity, Dr = Recognition of depression, Sr = Recognition of schizophrenia, PSD = Personal stigma for depression, PD = Perceived stigma for depression, SSD = Social stigma for depression, PSS = Personal stigma for schizophrenia, PS = Perceived stigma for schizophrenia, SSS = Social stigma for schizophrenia.

accounted for 4.4% of total disability adjusted life years (DALYs) (Hyman, Chisolm, Kessler, Patel, & Whiteford, 2006), compared with 1.1% of total DALYs for schizophrenia in the world (Rossler, Salise, van Os, & Riecher-Rossler, 2005). As a result, more individuals might have had experience with depression than schizophrenia, either directly or indirectly (Gorczyński et al., 2017). Differences in cultural elements like language may also play a role in recognition rates (Jorm et al., 2005). For example, in Ghana, the Akan tribe will describe mental disorders as *AdwenmuyarE*, which literally means mental sickness (perhaps closer to the Western conceptualization), while the Ewe tribe will describe it as *Tagbor Gblegble*, which literally means 'head spoiling'. Such varying descriptions may also have an impact on attributions of abnormal behaviour, attitudes and stigma.

Education, stigma and MHL

In the current study, education was associated with increased disorder recognition, as we had expected. As people become more educated, they are likely exposed to more information in general. Highly educated people are likely to seek knowledge by reading a wide range of materials from various sources, resulting in the acquisition of more general information, and knowledge about mental health issues specifically. The current finding is consistent with the literature, which has reported a strong positive correlation between education and health promoting behaviors (see Grossman, 2000, 2005 for review on education and health). O’Keeffe and colleagues (2015) reported that levels of education related with higher recognition of mental disorders (see also Gorczyński et al., 2017; Reavley, Terence, & Jorm, 2012), while lower levels of

education have been associated with lower MHL; or more specifically, “inadequate” attributions about depression in Japan (e.g., to a person’s imagination, physical illness; Kaneko, Motohashi, Sasaki & Yamaji, 2007). More educated people are also more likely to be reached by public mental health campaigns (Highet et al., 2006).

Additionally, the educated in Ghana might have experienced or learned more about how Ghanaian citizens behave towards the vulnerable in society, and perhaps reflect the perceived accepting nature of those that surround them (i.e., other educated people who tend to show less prejudice; Kabir et al., 2004). In other words, perhaps the more educated surround themselves with other educated people, which is usually the case (Hoffmann-Lange, 2008). This entourage effect might have led to the perception that Ghanaian society is less stigmatizing overall, hence the inverse association between education and perceived stigma for both depression and schizophrenia. Although previous literature reported an inverse correlation between personal stigma and education (Madianos et al., 1999; Kabir et al., 2004; Alem et al., 1999), our findings build on extant literature by showing that education may not only correlate with personal stigma, but may also be associated with *perceived* stigma at the community level. Moreover, it was observed that better recognition of schizophrenia related with reduced *personal* stigma for schizophrenia; consistent with previous research (Hall et al., 1993; Kitchener & Jorm, 2006). Thus, knowledge about mental disorders may have exposed participants to corrective information towards people with these disorders (e.g., that most people with schizophrenia are not dangerous or untreatable), which in turn may inhibit stigmatizing attitudes towards people with severe mental illness. Specifically, education about

MHL could have emphasized the assumptions of the Recovery Model (Shepherd, Boardman, & Slade, 2008), which assumes that individuals with mental disorders are active agents in their own lives, are capable of managing themselves, influencing their recovery process, taking control over their disorders and assuming full responsibility for their behavior (Shepherd et al., 2008). Such exposure to mental health issues may reduce personal stigma. Perhaps, paradoxically, this finding contrasts with what was obtained regarding stigma perceived in society at large: people who are more accurate in recognizing schizophrenia seem to believe that *others* hold onto stigmatizing beliefs, while they themselves do not. That is, unexpectedly, the current findings showed that recognition of both depression and schizophrenia correlated with increased perceived stigma, but are in accord with the findings by O’Keeffe and colleagues (2015) that increased MHL correlated with increased perceived stigma in society. Other researchers reported similar findings as well (Angermeyer & Matschinger, 2004; Hengartner et al., 2013; Martin, Pescosolido, & Tuch, 2000).

This relation may occur when participants who learn about the disorder also become aware of how the disorder is stigmatized in society. Moreover, the recent advocacy programs by the media and other stakeholders, such as the Ghana Psychological Association (GPA), on decrying negative treatment and attitudes towards individuals with mental problems (Kintampo Mental Health Centre, 2013) could have accounted for such relation, as these bodies are more likely to report negative attitudes towards the mentally ill patient. This acute awareness may also lead them to reduce their own stigma as they learn more corrective information about the disorder.

On the other hand, the non-significant relationships observed between personal and social stigma for depression and recognition of depression, and social stigma for schizophrenia and recognition of schizophrenia, could be due to the possibility that participants’ knowledge about these mental disorders did not change participants’ personal and social attitudes towards the hypothetical person (Angermeyer, Holzinger, & Matschinger, 2009). Perhaps a higher MHL threshold needs to be reached for a negative relation to become more apparent between identification and certain forms of stigma. In any case, these nuanced and differential findings between correct identification and attitudes reinforce the notion that stigma needs to be examined at multiple levels, from personal to perceived levels in the community.

Religiosity, stigma, and MHL

Although we predicted that higher levels religiosity would have reduced associations with the correct

recognition of both depression and schizophrenia, our results failed to show a relation between these variables. The nature of our current sample might be a contributory explanation for why religiosity could not predict recognition rates. Researchers of previous studies mostly focused on participants within a specific place of worship (e.g., BBC News, 2018; as well as Taylor, 2016, sampled a prayer camp in Ghana). In contrast, the participants of the current study mostly included relatively educated participants from various parts of Ghana. Although lower levels of education (Junior High School leavers, Senior High School leavers) were sampled, more than half of the participants held bachelor degrees. As a result, they perhaps responded to the various vignettes based on their pre-existing understanding of the available information presented in the vignette, and their responses may have been less influenced by personal religious beliefs. The recent advocacy programs in mental health since the enactment of the Mental Health Act in 2012 could also be a contributory factor in dampening the effects of religiosity (Kintampo Mental Health Centre, 2013). For example, Accra Psychiatric hospital, located in the capital city of Ghana, now has the first rehabilitation center in the country for certain mental disorders. These programs and initiatives might have possibly enhanced the public’s awareness of mental disorders.

However, religiosity was found to predict stigmatizing attitudes, if not recognition rates. Thus, personal and social stigma for depression were associated with increased religiosity. This relation can be explained from the point of view that religion makes its members believe that it is important to “live a righteous life” (e.g., Proverbs 22:3), to be strong toward life challenges (e.g., Isaiah 41:10), and sometimes to talk to a supreme being “in times of troubles” (e.g., Psalm 55:22). Individuals who have a strong reliance on these beliefs might perceive people with depressive symptoms as suffering as a result of weakness in their lives or inadequate religious faith, and even as a result of sins committed (Caplan et al., 2011) rather than as a mental health or medical problem. They might also endorse statements, such as “it is proper to keep a problem like John’s to yourself” because this is what religious scripture would suggest (e.g., 1 Thessalonians, 4:11).

People with such strong beliefs may not like to be associated with ‘tainted’ persons, because religious members believe that “in order not to be corrupted by the ways of the unrighteous it is always important to distance oneself from them” (Psalm 1:1). This belief perhaps influenced attitudes towards the depressive patient in the vignettes. This finding is concordant with a large sample study conducted with university students in the USA (Eisenberg et al., 2009), as

researchers found that personal stigma was higher among more religious students (see also Caplan et al., 2011). Stigma may also be higher in developing or more religious countries; a recent study found that Russian compared to American participants were more likely to view a person depicted in a vignette with depression to be weak-willed and leading an “immoral” lifestyle (Nersessova et al., 2019).

In the case of schizophrenia, in contrast to depression, personal stigma attitudes and the beliefs about the stigma attitudes of others were associated with decreased religiosity. One reason that may have accounted for this relation is that the person with schizophrenia portrayed in the vignette could have been perceived as more vulnerable, as opposed to weak (cf. Nersessova et al., 2019). This perception could have engendered religious participants to feel sympathetic towards this hypothetical person, resulting in less personal stigma. Possibly, it could be that because religion makes members believe that the act of caring for the vulnerable in society comes with blessings from God (1 Corinthians 7:5). Participants might have also believed that others would feel and behave in the same manner, hence the inverse relationship between perceived stigma for schizophrenia and religiosity. This finding contradicts with what has been previously found in some of the anthropological literature. That is, previous studies in Uganda reveal that religious families can isolate themselves from relatives with schizophrenia because they believe that such individuals are either possessed by spirits, being punished by God for sin(s) committed or bewitched; at the community level, individuals see such patients as dangerous or evil (Teuton, Bentall, & Dowrick, 2007; see also a review by Quinn & Knifton, 2014). Notwithstanding, the differences in findings could stem from the different samples used in these studies. That is, the current study sampled predominantly educated and urbanized individuals in Ghana, whilst previous studies mostly interviewed individuals in rural communities. Also, several previous studies used qualitative methods, as opposed to quantitative method in the present study.

On the other hand, our findings may be partly consistent with the five-year follow-up WHO international pilot study of schizophrenia where people in developing countries had better outcomes compared to developed countries, possibly due to better social support and tolerance of the symptoms which may be integrated in a religious narrative about the cause of the disorder, such as a “test from God” (McGruder, 2004; see also Leff, Sartorius, Jablensky, Korten, & Ernberg, 1992). Moreover, perhaps unlike the depression vignette, participants perceived the person with schizophrenia as having less control over his life.

Finally, the increased recognition of depression associated with increased recognition of schizophrenia could imply that participants tend to be knowledgeable about mental health problems in general, while others may know little about either disorder. Perhaps individuals form global attitudes about mental health issues, which are then generalized towards all mental disorders. This could explain why participants who endorsed a specific form of stigma (i.e., personal, social, perceived) were more likely to exhibit other forms of stigma towards both mental disorders presented in this study.

Strengths and limitations

Our study addressed an important gap in the literature (e.g., mental disorder recognition and stigmatization), and is also the first, to our knowledge, to study MHL in Ghana with specific reference to recognition of mental disorders. Our study has the potential to contribute to a better theoretical understanding of disorder recognition, education, religiosity and stigma in sub-Saharan Africa, which has important practical implications for prevention and public mental health campaigns. For instance, many people in Ghana appear to be less able to identify schizophrenia than depression, yet religiosity may be associated with greater stigma towards the latter.

However, our study has certain limitations. The sample was not fully representative of the Ghanaian population. That is, since the study collected a convenient sample online, it was predominately the educated in Ghana and those with internet access who were able to participate; moreover, those who were known to the first author formed the basis of the snowball sample. Thus, about 87% of participants had completed post-secondary education, while, according to some statistics, only about 2% of the general population aged 25 and above has completed tertiary education (Trending Economics, 2019). Perhaps this might have resulted in the non-significant results observed between some variables. Additionally, the vignettes were gender-biased (i.e., names of males only) and the sample that completed the study was predominantly male. It is unclear whether our findings would have been different had we had a more gender-balanced sample. Our sample was also predominantly Christian, although it should be noted that Christians significantly outnumber Muslims in Ghana. Again, our study failed to address the combined effect of high educational levels and religiosity on stigmatizing attitudes.

The use of vignettes has its own shortfalls, including those related to ecological validity. Thus, participants might respond differently towards individuals with

depression and schizophrenia in a real-life situation compared to an imaginary one (Suhail, 2005).

Kutcher et al.'s (2016) review of 400 MHL studies revealed that most MHL studies lack appropriate psychometric properties. Researchers found that diagnostic vignettes generally do not capture all the components of MHL and are limited by the number of disorders they portray. Moreover, the use of diagnostic vignettes as research outcomes do not provide sufficient evidence for improvement in MHL. That is, this method does not distinguish between simple symptoms of disorders and full syndromes or even the experience of daily distress (Pescosolido et al., 2008).

We also used a cross-sectional correlational design, thus making cause and effect difficult to disentangle. For instance, it is unclear whether stigma-related attitudes influence disorder recognition, or vice versa. Finally, the personal stigma (depression and schizophrenia) scales were limited in their internal consistency.

Nonetheless, our study represents one of the few on disorder identification in this understudied region, has the potential to contribute to a better conceptualization of the interrelations between disorder recognition, education, religiosity and stigma in sub-Saharan Africa, and has important practical implications pending replication in more representative samples. Assessing the aforementioned four variables in a single study has been novel to date, and our findings highlight the importance of measuring various forms of stigma and religiosity in MHL research.

Implications and future directions

Differences in recognition rates of mental disorders across countries could result from the variations in the vignettes used (see a review by Furnham & Hamid, 2014). Therefore, utilizing standardized vignettes could help gauge a more accurate level of MHL across populations, given that the syndromes of depression and schizophrenia appear to be universal (e.g., Heine, 2015). However, using a standardized profile could be challenging, as different populations tend to express their symptoms differently (e.g., Heine, 2015; Kirmayer, Thombs, Jurcik, Jarvis, & Guzder, 2008; Jurcik, Chentsova-Dutton, Solopieieva-Jurcikova, & Ryder, 2013; Ryder et al., 2008). Moreover, our findings call for further attention to all indicators of MHL, not only recognition (i.e., help-seeking, first-aid, prevention).

From a practical perspective, it is prudent to understand the cultural definitions and formulations, awareness, and attitudes towards mental disorders and related phenomena before any intervention is carried out (see Kirmayer et al., 2008). Particularly, mental health campaigns may consider directing attention to

both depression and schizophrenia, but need to tailor interventions to the religious and cultural context. To address the problem of limited recognition rates and stigma, formal education could be one of the mediums for improving literacy rates. Effective education programs for both disorders appear to be necessary. Given the highly religious nature of this society, perhaps carefully selected biblical verses that focus on compassion may be utilized in fostering more empathetic attitudes towards those suffering from these disorders.

Emphasising the biopsychosocial model and stress-vulnerability model in the education system may help in anti-stigma campaign programs, as education was associated negatively with perceived stigma for both depression and schizophrenia. Nevertheless, formal education might not always be considered as the only way to educate the public on mental health issues, as general education was not associated negatively with all forms of stigma, and formal education is unlikely to be sufficient in mitigating stigma. For instance, attention can be focused on contact-based education, as it has been found to be more effective in mitigating stigma compared to other forms of traditional education (Stuart, 2016). One approach to contact-based education involves providing opportunities for the general public to socially interact with people with severe mental illnesses (see a review by Corrigan and Penn, 1999).

The current findings may help inform stakeholders about how mental disorders are perceived and highlight the need to assess attitudes towards mental health problems carefully prior to launching prevention campaigns. Special attention may be directed to religious groups in an attempt to improve MHL because, as the current study suggests, religion may influence interpretations of mental health issues, which can affect public attitudes towards the mentally ill or mental health outcomes (Knapp, Lemocelli, & VandeCreek, 2010). Nonetheless, our study sample was predominantly Christian and future research could be devoted on differences in attitudes between some of the other religious groups in Ghana, and using more representative and gender balanced samples.

Next, examining public attitudes towards these disorders with actors or real patients (as opposed to written vignettes) could be beneficial, along with future longitudinal intervention studies in Africa that have an educational or social contact component with real patients. Finally, examining additional indicators of MHL, such as treatment seeking in developing countries (see also Nersessova et al., 2019) and attitudes and beliefs about other mental disorders (including culture-bound syndromes; see APA, 2013; Jadhav, 2007) may generate important insights about how different disorders are perceived.

Conclusion

The current study sought to examine the recognition rates for two universal mental disorders, and the relations with religiosity, education, and stigma in Ghana. Our study showed that participants were considerably more accurate at identifying depression than schizophrenia, and those who were more educated tended to be more accurate in general. We demonstrated that one of the cherished values of Ghanaians (religiosity) may not be related to participants' ability to recognize a mental disorder. However, attitudes towards different mental problems varied with religious belief: level of religiosity related positively with stigmatizing attitudes towards depression, but negatively with stigmatizing attitudes towards schizophrenia, suggesting that internalized religious doctrine in Ghana may be associated with more accepting views towards those with schizophrenia than with depression.

Our study adds to the very limited literature examining mental disorder recognition and religiosity in a predominantly Christian sample in sub-Saharan Africa. Future studies that explore potential causal or mediating links between our variables are needed in more representative samples. It remains an open question as to whether endorsing religious beliefs is related to a more accepting stance towards those with schizophrenia than with depression.

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Notes

1. While this may be a culturally specific example involving a particular presenting problem, we acknowledge that religious attendance may be protective for many followers, as it is generally associated with less psychological distress (Jarvis, Kirmayer, Weinfeld, & Lasry, 2005).
2. Notably, 76.6% of Ghanaians are literate (are able to read and write), as reported by the United Nations Education, Scientific and Cultural Organization ([UNESCO], 2015). Further, since a large proportion have access to the internet (GeoPoll survey report, 2015), a fairly substantial percentage of the population has the *potential* to obtain information disseminated about global mental health topics.
3. Traditional religion is a way of worship in Ghana involving belief in a supreme creator, belief in spirits, veneration of death, and use of magic and traditional medicine. This was a widespread religion before the event of colonialism. Currently, however, it has the least number of followers among the three major religions in Ghana. 71.1% of the population belong to the Christian religion, 17.6% identify as Muslims, 5.2% identify with the traditional religion, 5.3% do not belong to any religion, and 0.8% belong to other religions (GSS, 2012).
4. Names in Ghana are commonly attributed to and reveal affiliation with a certain tribe. 'English' names, e.g. Peter and John, used in our study are not associated with any specific tribe (i.e. are tribal-free names).

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