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THE RELATIONSHIP BETWEEN STIGMA AND PERCEPTION OF MENTAL HEALTH PROBLEMS IN GHANA

Micki Washburn[1], Rabiu Kwaku Boakye Asante[2], Doris Akyere Boateng[3], Philip Baiden[1], Joshua Awua[1], Gabrielle Scott,[1] Kathryne B. Brewer, [4] Sondra Fogel,[6] Steven Moore,[1] Susan P. Robbins[5] & Robin E. Gearing[5]

[1]*University of Texas at Arlington School of Social Work, Arlington, TX*

[2]*University of Ghana Department of Sociology, Accra, Ghana*

[3]*University of Ghana Department of Social Work, Accra Ghana*

[4]*University of New Hampshire Department of Social Work, Durham, NH*

[5]*University of Houston Graduate College of Social Work, Houston, TX*

[6]*University of South Florida School of Social Work, Tampa, FL*

Abstract

Mental health stigma is often associated with symptom progression and delays in treatment seeking. This study field recruited a sample of 507 Ghanaian adults to take part in a survey utilizing a randomized experimental vignette design to learn more about their conceptualizations of mental health symptoms and examine attitudes toward those experiencing those symptoms. Participants were randomly assigned a vignette featuring a person with symptoms of one of five common mental health concerns. They were then asked to indicate if the vignette subject had a "problem" and complete a multidimensional stigma measure. Results indicate that relational and treatability related stigma were inversely related to perceptions of if the vignette subject had a problem, while public and disclosure related stigma were directly associated with problem perception. Thus, stigma reduction efforts may be particularly effective when tailored to target specific stigma domains. Implications for future research and social policy are explored.

Keywords

Mental Health, Stigma, Ghana, Depression, Experimental Vignette

Introduction

It is currently estimated that approximately 10% of Ghanaians experience mental health conditions or disabilities related to psychosocial, intellectual, and/or cognitive functioning, with an estimated 3 million people who may need mental health care (Harden et al., 2023). According to the World Health Organization (WHO, 2022), depression and anxiety disorders rank among the top 10 causes of disability in Ghana, a growing concern in a country experiencing rapid socioeconomic development (Amu et al., 2021). Increased socio-economic development, 'Westernization', and the influence of technological advancement may contribute to the increase in Ghanaians' mental health related conditions, along with ongoing experiences of poverty, social exclusion, and gender-based violence (Tawiah et al., 2015).

Ghana's healthcare system has limited capacity to manage increases in mental health concerns that have emerged following the Covid-19 pandemic (Durizzo et al., 2022; 2021). The development of systems of care for those in need of help for mental health related conditions still lags behind relative to those in need of help for physical health concerns (Owusu, 2020; Weobong et al., 2021). Currently, Ghana has only three public psychiatric hospitals, all located in the southern region of the country and only ten community inpatient psychiatric units, concentrated in the urban areas in southern parts of the country Moreover, the treatment of mental health conditions primarily relies on institutional, rather than community-based care, a practice inherited from the colonial era, bringing with it concerns about people's right to self-determination. (Harden et al., 2023).

The limited growth of the mental health care system in Ghana may in part be attributed to prevailing attitudes and assumptions about mental illness within the country (Andoh-Arthur et al., 2015). Despite governmental efforts to expand access to care, Ghanaians remain hesitant to seek professional help for their mental health concerns due to a variety of factors including relatively low levels of health literacy, beliefs about mental illness, perceptions about who possesses the ability to facilitate healing and high levels of religiosity (Ek, 2018; Tay & Ocansey, 2022). It is estimated that only 2% of individuals in Ghana with mental illness opt for biomedical treatment (Salifu Yendork et al., 2016).

Perceived Causes of Mental Illness in Ghana

Early work in this area suggests that understanding mental illness within the African context encompasses a variety of factors including heredity, poor diet, or substance use (Lamensdorf Ofori-Atta & Linden, 1995). Moreover, existing literature on African beliefs concerning the origins of mental illness has primarily focused on spiritual or religious explanations (Gyamfi et al., 2017; Stefanovics at al., 2016). Ghana is one of the most religious societies globally, with 71% of the population identifying as Christian, 20% identifying as Muslim and the remaining 9% belonging to other religious groups or holding no religious beliefs (United States Department of State, 2021).

In some areas of Ghana, it is believed that individuals experiencing mental health concerns have committed some wrongdoing, deserving punishment from evil spirits (Salifu Yendork et al., 2016). As a consequence, Ghanaians with mental health conditions may experience stigma, social isolation or even physical violence for disclosing or seeking help for their mental health symptoms. Those affected by mental illness are often regarded as cursed or possessed, resulting in social isolation and delays in help seeking (Opare-Henaku & Utsey, 2017).

Recently there has been a shift toward better understanding of mental health conditions through increased governmental investment in better quality and more readily available treatments as well as through private non-governmental organizations. For example, the enactment of the Mental Health Act (Act 846) in 2012 marked a significant advancement in mental health care in Ghana. Act 846 facilitated the expansion of mental health services to regional, district, and community health centers and led to the training of more community-based mental health officers. In addition, Act 846 promotes the development of collaborative working relationships among community mental health workers, religious leaders, and traditional healers to foster a more integrated approach to mental health care (Kpobi et al., 2023; Mental Health Authority Ghana, 2018). Despite these efforts, individuals experiencing mental health conditions often do not seek help, with stigma related to mental health often cited as a critical barrier (Ae-Ngibise et al., 2021; Gyamfi et al., 2017).

Mental Health and Stigma

Mental health stigma is a multidimensional construct that encompasses social distance, perceptions of dangerousness, self-stigma and beliefs around disclosure and treatability (Authors, 2024). Prior work on mental health stigma indicates that high levels of religiosity may contribute to the stigma associated with mental illness in Ghana (Adu et al., 2021; Tawiah et.al., 2015; Yendork et al., 2016), and other areas of the world (Authors 2024b; Corrigan, 2004; Corrigan et al., 2012). Stigma toward those experiencing mental illness is an identifiable barrier to formal help seeking both in Ghana and sub-Sahara Africa (Ae-Ngibise et al., 2021; Gyamfi et al., 2017). Research examining three areas of sub-Saharan Africa (Makanjuola et al., 2016) found that the majority of participants reported experiencing significant social stigma as a result of their psychotic disorder. Another study conducted in Ghana (Barke et al, 2011) revealed significant levels of stigma exists toward those with mental health concerns, notwithstanding the specific mental health concerns (e.g., depression, anxiety, psychosis). Similarly, research has found that social stigma surrounding receiving psychological help and self-stigma regarding needing help were negatively associated with intentions to seek psychological assistance (Andoh-Arthur et al., 2015). Similarly, another study found that many Ghanaians with mental health conditions do not seek treatment, primarily due to discrimination associated with mental health illnesses (Tawiah et al., 2015). Study researchers assert that discrimination leads to social impact (e.g., refusal of marriage, loss of social contacts) and economic impacts (e.g., job loss, discriminatory charges based on mental health issues; Tawiah et al., 2015). This finding was further supported by Mfoafo-M'Carthy and colleagues (2017), who reported that Ghanaians experiencing severe mental illnesses face significant challenges such as limited employment opportunities, social exclusion, and difficulties in forming and maintaining social relationships.

Badu et al. (2019) conducted a systematic review of published studies on treatment pathways used to treat mental illness in Ghana and found that barriers to employment including biological factors (e.g., ill health, comorbidities that included time off from work related to job loss), psychological factors (e.g., anticipation of symptoms relapsing), interpersonal factors (e.g., family rejection, potential for homelessness) and contextual factors (e.g., lack of support or policies to protect those with mental illness) significantly hinders Ghanaians with mental health symptoms in seeking mental health treatment. Labinjo et al. (2020) also conducted a scoping review

of mental illness and stigma in nearby Nigeria and identified three overarching themes: 1) knowledge, perceptions and views about the causes of mental disorders and treatment of mental disorders, 2) perceived description of people with mental disorders, and 3) attitudes towards people with mental disorders as barriers to seeking mental health treatment. These works, although contributing significantly to the overall knowledge of mental health related stigma in an African context, provide little information concerning if Ghanaians perceive those who are experiencing mental health symptoms as having a "problem" and how conceptualization of mental health symptoms as a problem may be associated with different types of mental health stigma.

Thus, to have a deeper understanding of how social stigma toward individuals with mental health concerns operates within the Ghanian cultural context, our research team examined the following research questions:

1. Are there differences in stigma expressed stigma toward the vignette subject based on the vignette subject's sociodemographic characteristics (such as gender or diagnosis/symptoms experienced)
2. What is the relationship between the various domains of mental health stigma and respondents' perceptions of whether the vignette subject has a "problem" or not.

Method

Recruitment Procedures

A convenience sample of 507 Ghanian adults were recruited from Accra (a large primarily Christian urban center in the South) and Tamale (a predominantly Muslim regional urban area in the North) to participate a large study investigating Ghanian individuals' attitudes and beliefs about mental health concerns and mental health related stigma. Participants were recruited in person by a local research teams comprised of undergraduate and graduate research assistants (RAs) who spoke both English and the regional language (Dagbani or Twi). The RAs were trained jointly by Ghanaian and American researchers in the study methodology.

The RAs approached potential participants in various public areas of both regions including bus stops, churches/mosques, universities/schools, outdoor markets, and public squares and asked them if they may be interested in completing a survey about mental health. Eligible participants had to be 18 years of age, identify as a Ghanaian resident, and be able to speak/read either English, Dagbani or Twi. Participants were provided information on the study, expected time of participation, remuneration, and any further or clarifying information to support informed consent. As no identifying information was collected, a waiver of documented written consent was received from the Institutional Review Board (IRB) of (Institution blinded for review) to protect the privacy and anonymity of respondents. All participants provided verbal consent to participate.

After consenting to the study, participants were given an online tablet based Qualtrics survey which included a vignettes describing symptoms of a person experiencing one of 5 mental health related concerns. The survey took approximately 45 minutes to complete and those with limited literacy could opt to have a member of the research team read the survey questions to them. Participants were compensated for their time through receiving "gift cards" for mobile phone airtime (Accra) or cash (Tamale) which was equivalent to $5 US. A total of 680 individuals consented to participate in the larger study. Twenty-two participants returned a blank instrument resulting in an initial sample size of 658 total participants.

Measures

The survey instrument was comprised of three parts: 1) questions about the sociodemographic characteristics of respondents and measures of spirituality, mental health knowledge, attitudes toward professional help seeking, self-stigma and exposure to someone with a mental health issue to be used as covariates in the analyses; 2) clinical vignettes depicting a person with symptoms of a mental health concern (anxiety, depression, psychosis, problematic gambling or suicidal ideation); and 3) questions concerning participants' attitudes and beliefs about the individual featured in the vignette.

Experimental Vignettes

Experimental vignette studies provide a robust methodology for assessing participants' attitudes individuals with symptoms of various mental health concerns (Aguinis & Bradley, 2014; Atzmüller & Steiner, 2010; Evans et al., 2015; Gearing et al., 2013; Steiner et al., 2016). Participants were randomly assigned a vignette featuring an individual experiencing symptoms of unipolar clinical depression, generalized anxiety disorder or schizophrenia spectrum disorder, gambling disorder, or suicidal ideation to determine whether the symptoms were differentially associated with the various domains of mental health stigma. The vignettes were also varied by gender of the person experiencing the mental health symptoms, resulting in 10 versions of the vignette. An example of a vignette presented to the participants is included as Appendix A. After reading the vignette, the participants were asked whether they thought the vignette subject had a "problem" and then completed a standardized multidimensional measure of stigma.

Conceptualization of the Problem

Respondents were asked on a scale of 0 (definitely not) to 10 (definitely yes), "Do you think that *(vignette subject)* has a problem? For the purpose of this study, respondents who indicated 0 (definitely not) were coded as "No = 0", whereas respondents who indicated 1 through 10 were recoded as "Yes = 1."

Mental Health Stigma

Mental health stigma was measured using a 26-item measure comprised of six subscales, including social distance stigma, relational stigma, public stigma, perceptions of dangerousness, disclosure stigma, and treatability stigma. Participants rated each item on a scale of 0 (completely disagree) to 10 (completely agree). Table 1 displays the questions included in the stigma scale and their associated domains. Higher scores on social distance, public stigma, and treatability indicate positive attitude or less stigma, whereas higher scores on relational stigma, dangerousness, and disclosure indicate negative attitude or higher levels of stigma. In the present study, internal consistency (Cronbach's α) for the stigma subscale ranges from α = .68 for relational to α = .91 for social distance.

Table 1. Stigma Measure

Social Distance Items

1. I would be willing to have someone like Kwame as a neighbor.
2. I would be willing to share a trotro or taxi with Kwame every day.
3. I would be willing to have someone like Kwame as a close friend.
4. I would be willing to marry someone like Kwame despite his condition
5. I would be willing to have someone like Kwame be around my children.

Relational Items

6. I would feel anxious and uncomfortable being around someone like Kwame.
7. I would find it difficult to trust someone like Kwame.
8. I can tell that someone like Kwame has a mental illness by the way he acts.

Public Stigma Items

9. Most people would accept Kwame as a close friend.
10. Most people would be willing to hire Kwame for a job.
11. Most people would be willing to marry Kwame despite his condition.
12. Most people would let Kwame be around their children.
13. Most people would think less of Kwame because of his condition (REVERSE SCORED).

Dangerousness Items

14. How likely is it that Kwame will end up in trouble with the law?
15. How likely is it that Kwame will do something violent toward other people?
16. How likely is it that Kwame poses a risk to his neighbors?

Disclosure Items

17. Kwame should avoid telling other people about his condition.
18. Kwame should avoid situations where his condition might be revealed.
19. To avoid being judged, Kwame should not tell other people about his situation.

Treatability Items

20. Mental health professionals, such as psychiatrists and psychologists, can provide effective treatments for people like Kwame.
21. There are effective treatments for people like Kwame to return to normal and productive lives.
22. A person with problems like Kwame is not likely to solve it alone; they are likely to solve it with professional help.
23. Problems like what Kwame is experiencing, like many things, tend to work out by themselves (REVERSE SCORED).
24. People with conditions like Kwame will never be able to fully recover from it (REVERSE SCORED).
25. How likely is it that Kwame will be able to change?
26. How likely is it that Kwame will be able to change if he receives help?

Sociodemographic Characteristics

Participants were asked to describe their sociodemographic characteristics including age, gender, education level, place of residence, religion, marital status, education, and financial circumstances.

Exposure to Someone with a Mental Health Concern

The level of contact report asks respondents 11 items about their proximity to someone with a mental illness (Holmes et al., 1999). All "yes" scores were coded as [1] except for the statement *I have never observed a person that I was aware had a mental health problem* which was coded as [0]. The number of yes responses were then summed to give a total proximity score. In the present study, internal consistency (Cronbach's α) for the proximity to someone with a mental health problem was α = .73, indicating acceptable reliability.

Mental Health Knowledge

Knowledge of mental health conditions and their treatment was assessed by the 6-item Mental Health Knowledge Schedule (MAKS; Evans-Lacko et al., 2010). Respondents are asked a series of questions on which they gave a response ranging from 0 = strongly disagree to 10 = strongly agree. Scores from each question are summed to give an overall mental health knowledge score with higher scores indicating higher levels of mental health knowledge. The internal consistency (Cronbach's α) of 6 items measuring knowledge of mental health condition was adequate, α = .76.

Spirituality/Religiosity

Spirituality/religiosity was measured by the 5-item version of the Centrality of Religiosity Scale (CRS-5; Huber & Huber, 2012). Each item was rated on a 5-point scale capturing the frequency or intensity of spiritual/religious behaviors. Questions contained in the measure include *How often do pray*? and *To what extent do you believe that God or something divine exists*? In the present study, internal consistency (Cronbach's α) for the centrality of religiosity scale was adequate, α = .70.

Self-Stigma

Self-stigma was measured using the Stigma Concerns about Mental Health Care Scale (SCMHC; Nadeem et al. 2007). The measure was modified to ask the respondents level of agreement with three statement concerning mental health treatment on a scale of 1 = completely disagree to 10 = completely agree. The three items measure self-stigma uses the following prompts: *I would not want to receive treatment because…* followed by *I am embarrassed to talk about personal matters with others, I am afraid of what others might think,* and *My family members might not approve.* Responses were *yes, no,* or *I don't know.* If a respondent answered *yes* or *I don't know* to any of these questions, they were categorized as reporting self-stigma. In the present study, internal consistency (Cronbach's α) for the self-stigma scale was α = .79.

Attitudes Toward Seeking Professional Psychological Help

The Attitudes Toward Seeking Professional Psychological Help, Short Form (ATSPPH-SF; Fischer & Farina, 1995) is a ten-item scale used to assess respondents' openness to seeking formal help for mental health issues. Items are scored on a Likert-type scale ranging from 0 = completely disagree to 10 = completely agree. Negatively worded items are reverse scored. Item scores were summed to get a total scale score, and higher scores indicate more positive attitudes toward seeking professional help. In the current sample, Cronbach's alpha was calculated as α =.62.

Data Analysis

Data were analyzed using descriptive and multivariable analytic techniques. First, the distribution of all the variables included in the analysis was examined using percentage for the categorical variables and means and standard deviation (*SD*) for the continuous variables. The first analysis for the study used a MANOVA to determine if there were any differences in the domains of stigma expressed toward the vignette subject based on the subject's gender or type of symptoms that they were experience. The second analysis for this study involves the use of binary logistic regression to examine the association between stigma and the outcome variable (i.e., the perception that the person in the vignette had a problem) after controlling for demographic and other covariates. Binary logistic regression was chosen over multiple regression given that the outcome variable was measured as a binary variable and the explanatory, covariate, and demographic variables were measured as both categorical and continuous variables. Respondents with complete data on the variables included in these analyses constituted the final sample size (n = 507). Missing data were handled using listwise deletion.

Three logistic regression models were fitted with variables entered in a hierarchical order. Demographic variables were entered in Model 1 due to their a priori importance. Model 2 consist of all the demographic variables plus the covariates. The fully adjusted model consists of variables in Model 2 plus stigma subscales. Several model

fitness indexes were employed to assess the general fit of the models including the Hosmer-Lemeshow Goodness-Of-Fit test statistic whereby a nonsignificant chi-square test statistic indicates a good fit (Hosmer & Lemeshow, 2000). The Omnibus Tests of Model Coefficients, which follows a chi-square distribution, was also used to evaluate the statistical significance of each block. The proportion of variance in the outcome variable that could be explained by the set of predictors was assessed based on the Nagelkerke pseudo-R square, whereas the proportion of participants correctly classified was assessed based on the classification table. The classification cut-off was adjusted to 36% to reflect the proportion of respondents who responded "yes" to the perception that the person in the vignette had a problem. Adjusted odds ratios (AORs) are reported together with their 95% Confidence Intervals (CI). All analyses were performed using SPSS version 29 (SPSS Inc., Chicago, IL, USA). Variables were considered significant if the *p*-value was less than .05**.**

Results

Descriptive Statistics

The sociodemographic characteristics of respondents along with the means and standard deviations of standardized study measures used as explanatory variables are reported in Table 2. Majority of the respondents (55.4%) were male and roughly half of the respondents were from Accra (50.3%) and Tamale (49.7%). About four in five respondents (80.5%) currently reside in an urban area. More than half of the respondents identified as Christians (57%) and 42.2% as Muslim. More than half of the respondents (48.7%) were single whereas 44.2% were married. 53.3% of the respondents had tertiary education or higher. The vast majority of participants (78.7%) were under age 40.

Respondents on average had a moderately high level of prior familiarity with mental health issues (mean = 15.84, *SD* = 2.62). Overall scores on the MAKS (mental health knowledge) were moderately high (mean = 40.54, *SD* = 12.02) while scores on the centrality of religiosity (mean = 8.44, *SD* = 3.47) and self-stigma (mean = 8.45, *SD* = 6.94) were relatively low. Moderate scores were also reported on the attitudes toward seeking professional psychological help (mean = 67.30, *SD* = 14.43) meaning the majority of respondents had slightly positive attitudes toward seeking professional help for mental health concerns. The distribution of the stigma subscales are as follows: treatability stigma (mean = 58.78, *SD* = 13.53), social distance stigma (mean = 26.60, *sd* = 15.64), public stigma (mean = 24.23, *sd* = 12.35), dangerousness stigma (mean = 19.43, *sd* = 8.49), relational stigma (mean = 19.01, *sd* = 8.82), and disclosure stigma (mean = 10.48, *sd* = 7.96). In terms of percent of possible scores, stigma scores related to perceptions of dangerousness were the highest, while those for disclosure related stigma were the lowest.

Table 2 ***Sociodemographic Characteristics of Respondents (n = 507)***

Categorical Variables	Frequency (%)
Outcome variables	
Subject has a problem	
No	327 (64.5)
Yes	180 (35.5)
Subject's problem is serious	
No	261 (51.5)
Yes	246 (48.5)
Categorical explanatory variables	
Age	
Less than 25	149 (29.4)
25-29 years	109 (21.5)
30-39 years	141 (27.8)
40-49 years	67 (13.2)
50 years and above	41 (8.1)
Gender	
Male	281 (55.4)
Female	226 (44.6)
Where respondent currently live	
Tamale	252 (49.7)
Accra	255 (50.3)

Area of current residence	
Urban	408 (80.5)
Suburban	41 (8.1)
Rural	58 (11.4)
Religion	
Christian	289 (57.0)
Muslim	214 (42.2)
Other	4 (0.8)
Marital status	
Single	247 (48.7)
Married	224 (44.2)
Other	36 (7.1)
Highest educational level	
Less than senior high school	92 (18.1)
Senior high school	145 (28.6)
Tertiary education	270 (53.3)
Financial circumstance	
Cannot make ends meet	108 (21.3)
Barely making it	167 (32.9)
Breaking even	132 (26.0)
Have extra money after paying bills/no worry	100 (19.7)
Continuous Variables	Mean (SD; range)
Proximity to Someone with a Mental Health Problem	15.84 (2.62; 11-22)
Mental Health Knowledge	40.54 (12.02; 6-60)
Centrality of Religiosity	8.44 (3.47; 5-21)
Stigma Concerns about Mental Health Care	8.45 (6.94; 3-30)
Attitudes Toward Seeking Professional Psychological Help	67.30 (14.43; 19-100)
Stigma subscales	
Social distance	26.60 (15.64; 5-55)
Relational	19.01 (8.82; 3-33)
Public stigma	24.23 (12.35; 5-55)
Dangerousness	19.43 (8.49; 3-33)
Disclosure	10.48 (7.96; 3-33)
Treatability	58.78 (13.53; 17-77)

A MANOVA analysis was executed to determine if the gender of the vignette subject, the symptoms they were experiencing, and their interaction differentially predicted the levels of stigma expressed toward the vignette subject. Analyses indicate that symptoms profile and gender of the vignette subject were not significantly associated with different levels of stigma expressed toward the vignette subject, regardless of stigma domain.

Table 3 shows the results of the multivariable logistic regression results indicating that the person in the vignette was perceived as having a problem. All the demographic factors included in both Models 1 and 2 were not significantly associated with the perception that the person in the vignette had a problem. However, in the fully adjusted model, respondents who are married had 49% lower odds of having the perception that the person in the vignette had a problem when compared to their counterparts who are single (AOR = 0.51, $p < .05$, 95% C.I. = 0.28-0.96). Mental health knowledge (AOR = 0.97, $p < .01$, 95% C.I. = 0.96-0.99) and attitude toward seeking professional psychological help (AOR = 0.98, $p < .05$, 95% C.I. = 0.96-1.00) were inversely associated with the perception that the person in the vignette had a problem. However, in the fully adjusted model, only mental health knowledge emerged significant. Controlling for stigma, demographic factors, and other covariates, each additional increase in mental health knowledge decreased the odds of the perception that the person in the vignette had a problem by a factor of 2% (AOR = 0.98, $p < .05$, 95% C.I. = 0.96-1.00).

In the fully adjusted model, relational stigma and treatability stigma were both inversely associated with the perception that the person in the vignette had a problem, whereas public stigma and disclosure stigma were both positively associated with the perception that the person in the vignette had a problem. Controlling for other factors in Model 3, each additional increase in relational stigma was significantly associated a 6% decrease in the odds of the perception that the person in the vignette had a problem (AOR = 0.94, $p < .001$, 95% C.I. = 0.91-0.97). Similarly, each additional increase in treatability stigma was significantly associated a 3% decrease in the odds of the perception that the person in the vignette had a problem (AOR = 0.97, $p < .01$, 95% C.I. = 0.95-0.99). However,

each additional increase in public stigma was significantly associated with a 4% increase in the odds of the perception that the person in the vignette had a problem (AOR = 1.04, $p < .01$, 95% C.I. = 1.01-1.06) and each additional increase in disclosure related stigma was associated with a 3% increase in the odds that the vignette subject was perceived as having a "problem" (AOR = 1.03, $p < .05$, 95% C.I. = 1.00-1.06) .

Examination of the model fitness indices indicates that all the three models fit. The Hosmer-Lemeshow G.O.F. test statistic indicates that the overall fit of Model 3 was good and, together, the variables made a significant contribution to the model ($\chi^2 = 3.78$, $p = 0.877$). The Omnibus Tests of Model Coefficients produced a chi-square value of 129.81, which was statistically significant, $p < 0.001$. Together, all the variables included in Model 3 explained 31.0% of the variance in the perception that the person in the vignette had a problem.

Table 3 ***Predictors of perception that the person in the vignette had a problem (n = 507)***

Variables	Model 1		Model 2		Model 3	
Demographic factors	AOR	95% C.I.	AOR	95% C.I.	AOR	95% C.I.
Age (Less than 25)						
25-29 years	0.79	0.45-1.39	0.78	0.43-1.41	0.74	0.38-1.44
30-39 years	1.19	0.65-2.16	1.25	0.67-2.33	1.10	0.55-2.18
40-49 years	1.29	0.60-2.78	1.36	0.62-3.02	1.54	0.65-3.67
50 years and above	1.13	0.46-2.80	1.37	0.53-3.53	1.49	0.53-4.19
Gender (Male)						
Female	0.92	0.62-1.36	0.86	0.57-1.49	0.74	0.46-1.18
Where respondent currently live (Tamale)						
Accra	0.99	0.57-1.74	0.83	0.47-1.49	0.91	0.49-1.69
Area of current residence (Urban)						
Suburban	1.01	0.51-2.01	1.35	0.65-2.77	0.99	0.41-2.36
Rural	1.17	0.65-2.10	1.15	0.63-2.11	1.05	0.55-2.02
Religion (Christian)						
Muslim	1.06	0.62-1.84	0.96	0.54-1.70	1.05	0.56-1.98
Other	2.41	0.31-18.54	1.91	0.21-17.79	9.28	0.72-119.12
Marital status (Single)						
Married	0.72	0.42-1.24	0.71	0.40-1.25	**0.51***	**0.28-0.96**
Other	0.97	0.42-2.22	0.86	0.36-2.07	0.57	0.22-1.51
Highest educational level (Less than senior high school)						
Senior high school	0.74	0.43-1.30	0.92	0.51-1.65	0.86	0.45-1.63
Tertiary education	0.77	0.46-1.30	1.04	0.60-1.82	1.08	0.58-2.00
Financial circumstance (Cannot make ends meet)						
Barely making it	0.95	0.56-1.62	0.99	0.57-1.72	1.13	0.61-2.10
Breaking even	0.84	0.47-1.51	0.93	0.51-1.70	0.98	0.50-1.94
Have extra money after paying bills/no worry	1.32	0.70-2.50	1.50	0.78-2.91	1.47	0.71-3.08
Covariates						
Proximity to Someone with a Mental Health Problem			0.96	0.89-1.03	0.98	0.90-1.07
Mental Health Knowledge			**0.97****	**0.96-0.99**	**0.98***	**0.96-1.00**
Centrality of Religiosity			1.00	0.94-1.07	0.98	0.91-1.05
Stigma Concerns about Mental Health Care			1.01	0.98-1.04	1.00	0.96-1.03
Attitudes Toward Seeking Professional Psychological Help			**0.98***	**0.96-1.00**	0.99	0.97-1.00
Stigma						
Social distance					0.99	0.97-1.01
Relational					**0.94*****	**0.91-0.97**
Public stigma					**1.04****	**1.01-1.06**
Dangerousness					0.98	0.94-1.01
Disclosure					**1.03***	**1.00-1.06**
Treatability					**0.97****	**0.95-0.99**

Model fitness indices			
Nagelkerke pseudo-R-square	.023	.112	.310
Omnibus Chi-square test of Model Coefficient (sig.)	8.74 (.948)	43.31 (.004)	129.81 (< .001)
Hosmer-Lemeshow G.O.F. test statistic (sig)	3.06 (.930)	13.05 (.110)	3.78 (.877)
Overall precent correctly classified	58.8	67.5	70.0

Note: * = p <.05; ** = p < .01; *** = p < .001. Reference categories are indicated in parenthesis; AOR = Adjusted odds ratio; C.I. = Confidence Interval; G.O.F. = Goodness-of-fit

Discussion

The present study sought to further our understanding of the association between mental health stigma and the perception that individuals who experience mental health symptoms have a "problem." The research team found significant associations between the various stigma domains and the perception that the person in the vignette had a problem, but with important differences across stigma domains. Results from this study contribute to the nascent but growing research on mental health stigma in Ghana.

The finding that neither gender nor symptom presentation were predictive of different levels of stigma expressed towards the vignette subject was unexpected, given that Ghanaian culture often espouses traditional gender roles and expectations and that certain mental health symptoms may be interpreted as spiritual/religious concerns rather than a health-related issue. However, these findings are consistent with prior work of the authors using similar methods and measures with other populations across the globe (Authors, 2022, 2023a, 2023b; Leung et al., 2021).

Perceptions of whether the vignette subject had a problem were associated with respondents' marital status, and with their mental health knowledge, with those who are married being 49% less likely than those who are single to conceptualize the person in the vignette as having a problem. It is possible that participants who are married have a wider bandwidth of what symptoms or behaviors that are considered "normal" due to exposure to a wider range of human behaviors resulting from exposure to others not from their family of origin and life experiences.

Contrary to what was expected, those with higher levels of mental health knowledge were less likely to conceive of the vignette subject as a person who had a problem. This may be due, in part, to those with higher mental health-related knowledge having a less fatalistic view of people experiencing mental health-related symptoms and thus may characterize the symptoms as something challenging but not a "problem." Evidence from qualitative studies from Ghana shows that mental illness is generally conceptualized as an abnormal behavior that is characterized by aggressive and harmful behaviors (e.g., banging head against the wall and throwing objects at others) as well as inappropriate dressing (e.g., walking naked on the streets) (Kpobi et al., 2018; Salifu Yendork et al., 2016). Given that these symptoms were not explicitly included in the vignette may explain why higher mental health knowledge was inversely associated with the perception that the person in the vignette had a "problem." More research is needed on the relationship between mental health knowledge, stigma, and perceptions of mental health symptoms as being problematic.

Inconsistent with prior findings, in this study no relationship was found between spirituality/religiosity and mental health-related stigma. Extant research in this area by Barke et al. (2012), Salifu Yendork et al. (2016), and Addy et al. (2021) indicated that religiosity is predictive of stigma toward individuals experiencing mental health-related symptomology, regardless of the symptoms being experienced by the subject of the vignette. The current findings were unexpected, given that symptoms of psychosis, in particular, are often conceptualized as related to demonic possession or some type of spiritual imbalance in the person experiencing the symptoms. This could be attributed to this sample having higher levels of formal education than the general population, and thus they may have a more "Western" lens through which they viewed the mental health symptoms of the vignette subject. Additional research into the relationship between education, religiosity, and mental health stigma may lead to a deeper understanding of the relationship among these factors.

The domains of stigma toward those with mental health concerns differed significantly from one another, with stigma related to social distance, treatability, and perceptions of dangerous being highest, and stigma in relation to disclosure and public stigma (perceptions of what others may think of someone with that condition) being the lowest. Responses related to if the respondent thought the subject of the vignette had a problem positively correlated to perceptions of disclosure and public stigma and negatively correlated to relational and treatability stigma.

We hypothesized that those who score high on a relational stigma would have higher odds of perceiving mental health symptoms as a "problem." Contrary to our prediction, we found that higher relational stigma was associated with lower odds of perceiving mental health symptoms as a problem. This finding may indicate that

although participants would not trust or feel uncomfortable being around individuals who present symptoms of mental illness, yet they do not perceive the person in the vignette had a "problem." It is unclear why those who do not perceive persons experiencing symptoms of mental illness as having a "problem" but still feel uncomfortable interacting with them. However, given that mental health knowledge was negatively associated with the perception that the person in the vignette had a "problem," it is plausible to speculate that the participants may have perceived the individual in the vignette as someone with strange behaviors (i.e., bad attitudes) but not necessarily a mental illness that needs to be addressed. Consequently, this perception might influence their decision not to interact/relate with the person in the vignette. It may be stressful relating with individuals who think others are spying on them or those who feel the smallest tasks are difficult to accomplish. Perhaps such individuals are likely, in general, to be avoided by others.

Similarly, we found a significant positive association between public stigma and the perception that the person in the vignette had a "problem." Thus, participants who perceived that the vignette subject was having a problem also believed that most people would be willing to be friends with or hire the person in the vignette. The result indicates that although participants recognized the individual's problem, they did not view it as significant enough to impair the vignette subject's functioning in social relationships and employment. This could be attributed to how mental illness is generally conceptualized in Ghana as a serious condition characterized by aggressive and harmful behaviors towards self and others or individual perceptions on the functioning of others with mental illness. This result contradicts prior studies that found that individuals with mental illness are discriminated against in terms of employment and relationships (Badu et al., 2019; Dako-Gyeke & Asumang, 2013; Mfoafo-M'Carthy et al., 2017; Tawiah et al., 2015).

As expected, we found a significantly positive association between disclosure stigma and the perception that the person in the vignette had a "problem." This finding suggests that the participants expected the person in the vignette to keep their mental illness secret to avoid being discriminated against. Individuals who disclose their mental health challenges experience discrimination relating to employment opportunities (Badu et al., 2019; Baert et al., 2016; Hipes et al., 2016; Østerud, 2023; Tawiah et al., 2015), social relationships (Dako-Gyeke & Asumang, 2013), and access to quality health care (Thornicroft et al., 2007; Knaak et al., 2017), which adversely affect their quality of life.

It was also found that participants who perceive that mental illness can be treated tend to hold the perception that those experiencing symptoms of mental illness do not have a "problem." This indicates that beliefs about mental illness treatability may influence the perception that it is a problem. Thus, the treatability of an illness may be a key indicator in the conceptualization of mental illness as a problem, and individuals who perceive mental illness as treatable may have a less fatalistic view of people experiencing mental health-related symptoms.

Based on the results of this study, stigma reduction efforts should focus in part on increasing mental health literacy and dispelling myths concerning individuals with mental health concerns being a danger to themselves and others. These types of stigma reduction efforts should also include information on proven, evidence-based interventions for common mental health conditions, such as medications and cognitive behavioral therapy Grist, & Cavanagh (2013). However, it is also important to consider how acceptable these intervention approaches are within the Ghanaian context, regardless of their effectiveness, lest individuals experiencing these types of mental health concerns may continue to seek other, more traditional methods of addressing their mental health needs. Therefore, it is important to integrate traditional healers or other faith-based leaders into stigma reduction efforts to ensure consistent messaging and to raise overall community awareness and knowledge related to mental health concerns and their treatment.

Limitations

There are some limitations associated with this study. First, results were derived from a convenience sample of data drawn from only two regions of Ghana. A significant number of respondents in this sample reported higher levels of education than the national average, which may have impacted their overall levels of mental health literacy and responses regarding mental health related stigma. Thus, caution should be exercised in generalizing these results to Ghanaians as a whole. Future research should include a larger number of participants with education levels more reflective of the overall population of Ghana. Although performed adequately, the measures used were not specific to an African cultural context, and future researchers may wish to use culturally specific measures developed to capture attitudes toward mental health concerns and mental health-related stigma within an African context.

Overall, these results indicate that stigma expressed in Ghana toward those with mental health troubles is a real and present concern and has implications for both social policy and direct practice. One policy related change to start to address mental health stigma in Ghana may be to shift the current treatment focus from institutional care, only addressing the needs of those with the most severe mental illness, to community-based care, which would address a wider population with mental health needs while "normalizing" seeking treatment for common mental health concerns. Culture and religion continue to shape understanding and treatment of mental illness in Ghana.

Many Ghanaians rely on traditional and spiritual healers for treatment of mental health conditions, often due to lack of awareness and knowledge about psychiatric disorders, myths and misconceptions surrounding health, but also due to lack of widespread availability of evidence-based health care (Omoruan, 2018). Thus, mental health education and stigma reduction efforts should engage tribal and religious leaders, both as those in need of additional education concerning identification and treatment of mental health conditions, but also as those who may potentially educate others on this topic. Although our results did not support a relationship between religiosity and stigma, the majority of the research in this area indicates a direct association between levels of religiosity and stigma towards those with mental health conditions in Ghana.

The Ghanaian government, in collaboration with partners within the health system, has implemented several programs aimed at decreasing stigma, increasing mental health awareness and encouraging help-seeking behaviors for mental health conditions (World Health Association, 2022) as part of the 2012 Mental Health Act (Amu et al., 2021). Over the years, several non-governmental organizations (NGO) have also been working towards similar goals, by increasing community education and expanding mental health services to marginalized communities (Read & Doku, 2012). These initiatives could be expanded within the more fully developed systems of physical health care, which serve a greater number of people, to ensure full access to mental health services for all Ghanaians and demonstrate the benefits of seeking mental healthcare services. Having information on common mental health conditions available for all those seeking primary healthcare services may be one way of increasing overall health literacy and decreasing mental health related stigma. Physicians and allied health workers should implement general mental health screenings as a part of routine care in the hopes of increasing early identification of mental health concerns and increasing treatment engagement.

Finally, in addition to increasing the overall population's knowledge concerning mental health issues, policy makers and providers should also address some of the key systemic issues that impact mental health in Ghana and beyond, such as poverty, discrimination, and social inequalities (Read et al., 2020). The continued development and economic growth in Ghana may be a stressor associated with increased mental health symptomology, but at the same time may bring with it additional funding and other opportunities to support expanded healthcare infrastructure in areas of the country outside the major urban centers. One potential option to increase access to mental health care in Ghana may be the implementation of culturally adapted mobile mental health and telehealth services, as posited by Ben-Zeev (2018) and Owusu (2020) which may increase access to healthcare for those with limited literacy. However additional infrastructure development may be needed to implement telehealth services in rural areas, thus mobile mental health services may offer a more immediate solution for residents of rural areas. A consolidated effort that includes governmental officials, religious leaders, healthcare providers and elders/respected members of the community is needed to increase overall health literacy and expand systems of care for those with mental health needs.

Appendix

Example Vignettes

Depression, Male
Kwaku is a 30-year-old man who has depression. Up until a year ago, life was going well for Kwaku. However, things began to change a few months ago. Nearly every day, he wakes up with a sense of sadness and worthlessness that he cannot shake off. Kwaku lost his motivation to participate in his usual activities. He feels hopeless and he no longer enjoys things he normally would. In fact, nothing gives him pleasure. He makes an effort, but feels he does not have enough energy, even the smallest tasks feel difficult to accomplish and he has a hard time concentrating on anything. At night, even though he feels tired, he cannot sleep. He has been living this way for the past 6 months.

Anxiety, Female
Akua is a 30-year-old woman who has anxiety. During the past seven months, Akua has been worrying excessively about her productivity at work and about how her children are doing at school, even though she has no real reason to be concerned. Akua has difficulty concentrating at work and worries for several hours a day, which has affected her performance. Akua feels exhausted most of the time, tense all over her body, and constantly edgy. She has trouble falling asleep and wakes up in the middle of the night worrying and making to-do lists. Friends are concerned about the extent of Akua's worries and have noticed a big increase in her stress level.

References

Addy, N. D., Agbozo, F., Runge-Ranzinger, S., & Grys, P. (2021). Mental health difficulties, coping mechanisms and support systems among school-going adolescents in Ghana: A mixed-methods study. *PLoS ONE, 16*(4). e0250424. https://doi.org/10.1371/journal.pone.0250424

Ae-Ngibise, K. A., Adiibokah, E., Nettey, O. E. A., Nyame, S., Doku, V., Asante, K. P., … & Owusu-Agyei, S. (2017). "making the mentally ill count", lessons from a health and demographic surveillance system for people with mental and neurological disorders in the Kintampo districts of Ghana. *International Journal of Mental Health Systems, 11*(1). https://doi.org/10.1186/s13033-017-0130-x

Amu, H., Osei, E., Kofie, P., Owusu, R., Bosoka, S. A., Konlan, K. D., … & Gyapong, J. (2021). Prevalence and predictors of depression, anxiety, and stress among adults in Ghana: a community-based cross-sectional study. *Plos One, 16*(10), e0258105. https://doi.org/10.1371/journal.pone.0258105

Andoh–Arthur, J., Asante, K. O., & Osafo, J. (2015). Determinants of psychological help-seeking intentions of university students in Ghana. *International Journal for the Advancement of Counselling, 37*(4), 330-345. https://doi.org/10.1007/s10447-015-9247-2

Adu, P., Jurcik, T., & Grigoryev, D. (2021). Mental health literacy in ghana: implications for religiosity, education and stigmatization. *Transcultural Psychiatry, 58*(4), 516-531. https://doi.org/10.1177/13634615211022177

Adu, J., & Oudshoorn, A. (2020). The deinstitutionalization of psychiatric hospitals in Ghana: An application of Bronfenbrenner's Social-Ecological Model. *Issues in Mental Health Nursing, 41*(4), 306–314.https://doi.org/10.1080/01612840.2019.1666327

Ae-Ngibise, K. A., Adiibokah, E., Nettey, O. E. A., Nyame, S., Doku, V. C. K., Asante, K. P., & Owusu-Agyei, S. (2017). "Making the Mentally Ill Count", lessons from a Health and Demographic Surveillance System for people with mental and neurological disorders in the Kintampo districts of Ghana. *International Journal of Mental Health Systems, 11*, 22. MEDLINE. https://doi.org/10.1186/s13033-017-0130-x

Allison, P. D. (2002). Missing data (Vol. 136). Sage Publications, Inc.

Andoh-Arthur, J., Oppong Asante, K., & Osafo, J. (2015). Determinants of Psychological Help-Seeking Intentions of University Students in Ghana. *International Journal for the Advancement of Counselling, 37*(4), 330–345. https://doi.org/10.1007/s10447-015-9247-2

Arthur, Y. A., Boardman, G. H., Morgan, A. J., & McCann, T. V. (2021). Effectiveness of a problem-solving, Story-bridge mental health literacy programme in improving Ghanaian community leaders' attitudes towards people with mental illness: A cluster randomised controlled trial. *Issues in Mental Health Nursing, 42*(4), 332–345. APA PsycInfo. https://doi.org/10.1080/01612840.2020.1799273

Arthur, Y. A., Boardman, G. H., Morgan, A. J., & McCann, T. V. (2022). Cluster randomised controlled trial of a problem-solving, Story-bridge mental health literacy programme for improving Ghanaian community leaders' knowledge of depression. *Journal of Mental Health, 31*(6), 748–756. CINAHL Complete. https://doi.org/10.1080/09638237.2020.1793122

Asumah, M. N., Abubakari, A., Yakubu, M., & Padhi, B. K. (2023). Global economic meltdown and healthcare financing in Ghana. *International Journal of Surgery, 109*(3), 610–611. https://doi.org/10.1097/js9.0000000000000195

Authors (2022) Blinded for review

Authors (2023a) Blinded for review

Authors (2023b) Blinded for review

Authors (2024a). Blinded for review

Authors (2024b). Blinded for review

Badu, E., Mitchell, R., & O'Brien, A. P. (2019). Pathways to mental health treatment in Ghana: Challenging biomedical methods from herbal- and faith-healing perspectives. *International Journal of Social Psychiatry, 65*(6), 527–538. APA PsycInfo. https://doi.org/10.1177/0020764019862305

Badu, E., O'Brien, A. P., & Mitchell, R. (2018). An integrative review of potential enablers and barriers to accessing mental health services in Ghana. *Health Research Policy & Systems, 16*(1), N.PAG-N.PAG. CINAHL Complete. https://doi.org/10.1186/s12961-018-0382-1

Badu, E., Mitchell, R., & O'Brien, A. P. (2019). Pathways to mental health treatment in Ghana: Challenging biomedical methods from herbal- and faith-healing perspectives. *International Journal of Social Psychiatry, 65*(6), 527–538. https://doi-org.ezproxy.uta.edu/10.1177/0020764019862305

Baert, S., De Visschere, S., Schoors, K., Vandenberghe, D., & Omey, E. (2016). First depressed, then discriminated against? *Social Science & Medicine, 170*, 247–254. https://doi.org/10.1016/j.socscimed.2016.06.033

Barke A, Nyarko S, Klecha D, Barke, A., Nyarko, S., & Klecha, D. (2011). The stigma of mental illness in Southern Ghana: Attitudes of the urban population and patients' views. *Social Psychiatry & Psychiatric Epidemiology, 46*(11), 1191–1202. DOI 10.1007/s00127-010-0290-3

Ben-Zeev, D. (2018). Mobile health for mental health in west Africa: the case for Ghana. *Psychiatric Services, 69*(7), 741-743. https://doi.org/10.1176/appi.ps.201700555

Corrigan, P. (2004). How stigma interferes with mental health care. *American Psychologist, 59*(7), 614-625.

Corrigan, P. W., Morris, S.B., Michaels, P.J., Rafacz, J.D. & Rüsch,N. (2012). Challenging the public stigma of mental illness: a meta-analysis of outcome studies. *Psychiatric Services 63*, 10, 963-973. https://doi.org/10.1176/appi.ps.201100529

Dako-Gyeke, M., & Asumang, E. S. (2013). Stigmatization and discrimination experiences of persons with mental illness: Insights from a qualitative study in Southern Ghana. *Social Work & Society, 11*(1). http://nbn-resolving.de/urn:nbn:de:hbz:464-sws-421

Durizzo, K., Asiedu, E., Merwe, A. v. d., & Günther, I. (2022). Economic recovery but stagnating mental health during a global pandemic? evidence from Ghana and South Africa. *Review of Income and Wealth, 68*(2), 563-589. https://doi.org/10.1111/roiw.12587

Dzando, G., Salifu, S., Donyi, A. B., Akpeke, H., Kumah, A., Dordunu, R., & Nonoh, E. A. (2021). Healthcare in Ghana amidst the coronavirus pandemic: a narrative literature review. *Journal of Public Health Research, 11*(1), 2448. https://doi.org/10.4081/jphr.2021.2448

Edwards, J. (2014). Ghana's mental health patients confined to prayer camps. *The Lancet, 383*(9911), 15–16. https://doi.org/10.1016/S0140-6736(13)62717-8

Ek, E. (2018). "Mad lives too matter": Assessing the factors that account for poor mental health intervention programmes in the western region of Ghana. *Psychology & Psychological Research International Journal, 3*(6). https://doi.org/10.23880/pprij-16000174

Evans-Lacko, S., Little, K., Meltzer, H., Rose, D., Rhydderch, D., Henderson, C., & Thornicroft, G. (2010). Development and psychometric properties of the mental health knowledge schedule. *The Canadian Journal of Psychiatry, 55*(7), 440-448. https://doi.org/10.1177/070674371005500707

Ezeugwu, C. R., & Ojedokun, O. (2020). Masculine norms and mental health of African men: what can psychology do?. *Heliyon, 6*(12), e05650. https://doi.org/10.1016/j.heliyon.2020.e05650

Franke, M. L., von Lersner, U., Essel, O. Q., Adorjan, K., Schomerus, G., Gomez-Carrillo, A., Thi Minh Tam Ta, Boege, K., Mobashery, M., Dettling, M., Diefenbacher, A., Angermeyer, M. C., & Hahn, E. (2019). The relationship between causal beliefs and desire for social distance towards people with schizophrenia and depression: Results from a survey of young Ghanaian adults. *Psychiatry Research, 271*, 220–225https://doi.org/10.1016/j.psychres.2018.11.030

Gearing, R. E., Brewer, K. B., Schwalbe, C. S., MacKenzie, M. J., & Ibrahim, R. W. (2013). Stigma and adolescents with psychosis in the Middle East: Implications for engaging in mental health treatment. *Journal of Nervous and Mental Disease, 201*(1), 68-71. http://doi.org/10.1097/NMD.0b013e31827ab283

Grist, R., & Cavanagh, K. (2013). Computerised cognitive behavioural therapy for common mental health disorders, what works, for whom under what circumstances? A systematic review and meta-analysis. *Journal of Contemporary Psychotherapy, 43*, 243-251. DOI 10.1007/s10879-013-9243-y

Gilbert, D. J., & Dako-Gyeke, M. (2018). Lack of mental health career interest among Ghanaian social work students: Implications for social work education in Ghana. *Social Work Education, 37*(5), 665–676. https://doi.org/10.1080/02615479.2018.1447102

Gyamfi, S., Hegadoren, K., & Park, T. (2017). Individual factors that influence experiences and perceptions of stigma and discrimination towards people with mental illness in Ghana. *International Journal of Mental Health Nursing, 27*(1), 368-377. https://doi.org/10.1111/inm.12331

Harden, B., Gyimah, L., Funk, M., Drew-Bold, N., Orrell, M., Moro, M. F., Cole, C., Ohene, S.-A., Baingana, F., Amissah, C., Ansong, J., Tawiah, P. E., Brobbey, K., Carta, M. G., & Osei, A. (2023). Attitudes towards persons with mental health conditions and psychosocial disabilities as rights holders in Ghana: A World Health Organization study. *BMC Psychiatry, 23*(1). https://doi.org/10.1186/s12888-023-04620-3

Hipes, C., Lucas, J., Phelan, J. C., & White, R. C. (2016). The stigma of mental illness in the labor market. *Social Science Research, 56*, 16-25. https://doi.org/10.1016/j.ssresearch.2015.12.001

Holmes, E. P., Corrigan, P. W., Williams, P., Canar, J., & Kubiak, M. A. (1999). Changing attitudes about schizophrenia. *Schizophrenia Bulletin, 25*(3), 447-456. https://doi.org/10.1093/oxfordjournals.schbul.a033392

Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression* (2nd ed. ed.). New York: Wiley.

Knaak, S., Mantler, E., & Szeto, A. (2017, March). Mental illness-related stigma in healthcare: Barriers to access and care and evidence-based solutions. In *Healthcare Management Forum* (Vol. 30, No. 2, pp. 111-116. Sage Publications. https://doi.org/10.1177/0840470416679413

Kpobi, L., Kwakye-Nuako, C., & Gyimah, L. (2023). Mental health law and practice in Ghana: An examination of the implementation of Act 846. In *Routledge Handbook of Mental Health Law* (pp. 477-492). Routledge.

Kpobi, L. N., & Swartz, L. (2018). 'The threads in his mind have torn': conceptualization and treatment of mental disorders by neo-prophetic Christian healers in Accra, Ghana. *International Journal of Mental Health Systems, 12*, 1-12. https://doi.org/10.1186/s13033-018-0222-2

Labinjo, T., Serrant, L., Ashmore, R., & Turner, J. (2020). Perceptions, attitudes and cultural understandings of mental health in Nigeria: a scoping review of published literature. *Mental Health, Religion & Culture, 23*(7), 606–624. https://doi-org.ezproxy.uta.edu/10.1080/13674676.2020.1726883

Lambert, J. E., Nantogmah, F., Dokurugu, A. Y., Alhassan, H., Azuure, S. S., Yaro, P. B., & Kørner, J. (2020). The treatment of mental illness in faith-based and traditional healing centres in Ghana: perspectives of service users and healers. *Global Mental Health*, 7, e28. https://doi.org/10.1017/gmh.2020.21

Leung, P., Gearing, R. E., Chen, W., Cheung, M., Brewer, K. B., Li, X., & He, X. (2021). Public stigma on depression comorbid with diabetes: A Vignette-method study in China. https://doi.org/10.21203/rs.3.rs-1115277/v1

Makanjuola, V., Esan, Y., Oladeji, B., Kola, L., Appiah-Poku, J., Harris, B., Othieno, C., Price, L., Seedat, S., & Gureje, O. (2016). Explanatory model of psychosis: Impact on perception of self-stigma by patients in three sub-saharan African cities. *Social Psychiatry & Psychiatric Epidemiology*, *51*(12), 1645–1654. https://doi.org/10.1007/s00127-016-1274-8

McDaid, D., Knapp, M., & Raja, S. (2008). Barriers in the mind: promoting an economic case for mental health in low- and middle-income countries. *World psychiatry: official journal of the World Psychiatric Association (WPA)*, *7*(2), 79–86. https://doi.org/10.1002/j.2051-5545. 2008.tb00160.x

Mental Health Authority Ghana. (2018). *Guidelines for Traditional and Faith Based Healers in Mental Health. http://hracghana.org/sites/default/files/2020-07/GUIDELINES-FOR-TRADITIONAL-AND-FAITH-BASED-HEALERS_0.pdf*

Mfoafo-M'Carthy, M., Sossou, MA. Stigma, Discrimination, and Social Exclusion of the Mentally Ill: the Case of Ghana. *J. Hum. Rights Soc. Work 2*, 128–133 (2017). https://doi.org/10.1007/s41134-017-0043-2

Omoruan, Jesuseme (2018). *Perceptions of Health Professionals in Ghana on the Role of the Community in Chronic Disease Management* (2018). Electronic Theses and Dissertations. https://digitalcommons.georgiasouthern.edu/etd/1820

Opare-Henaku, A. and Utsey, S. O. (2017). Culturally prescribed beliefs about mental illness among the Akan of Ghana. *Transcultural Psychiatry, 54*(4), 502-522. https://doi.org/10.1177/1363461517708120

Østerud, K. L. (2023). Mental illness stigma and employer evaluation in hiring: Stereotypes, discrimination and the role of experience. *Sociology of Health & Illness, 45*(1), 90-108. https://doi.org/10.1111/1467-9566.13544

Owusu, E. (2020). A review of telepsychology and mental health mobile apps in advanced countries: opportunities for Ghana's mental health care. *Scholarly Journal of Psychology and Behavioral Sciences, 4*(2). https://doi.org/10.32474/sjpbs.2020.04.000184

Peprah, P., Gyasi, R.M., Adjei, P.OW. et al. Religion and Health: exploration of attitudes and health perceptions of faith healing users in urban Ghana. *BMC Public Health 18*, 1358 (2018). https://doi.org/10.1186/s12889-018-6277-9

Read, U. M., & Doku, V. C. (2012). Mental health research in Ghana: a literature review. *Ghana Medical Journal, 46*(2 Suppl), 29–38.

Read, U. M., Sakyi, L., & Abbey, W. (2020). Exploring the Potential of a Rights-Based Approach to Work and Social Inclusion for People with Lived Experience of Mental Illness in Ghana. *Health and Human Rights Journal, 22*(1), 91–104.

Salifu Yendork, J., Kpobi, L., & Sarfo, E. A. (2016). "It's only 'madness' that I know": analysis of how mental illness is conceptualized by congregants of selected Charismatic churches in Ghana. *Mental Health, Religion & Culture, 19*(9), 984-999.

Stefanovics, E. A., Rosenheck, R. A., He, H., Ofori-Atta, A., Cavalcanti, M., & Chiles, C. (2016). Medical student beliefs and attitudes toward mental illness across five nations. *The Journal of Nervous and Mental Disease, 204*(12), 909-915. DOI: 10.1097/NMD.0000000000000610

Tawiah, P. E., Adongo, P. B., & Aikins, M. (2015). Mental Health-Related Stigma and Discrimination in Ghana: Experience of Patients and Their Caregivers. *Ghana Medical Journal, 49*(1), 30–36. https://doi.org/10.4314/gmj.v49i1.6

Tay, D. A., & Ocansey, R. T. A. (2022). Impact of Urbanization on Health and Well-Being in Ghana. Status of Research, Intervention Strategies and Future Directions: A Rapid Review. *Frontiers in Public Health, 10*, 877920. https://doi.org/10.3389/fpubh.2022.877920

Thornicroft, G., Rose, D., & Kassam, A. (2007). Discrimination in health care against people with mental illness. *International Review of Psychiatry, 19*(2), 113-122. https://doi.org/10.1080/09540260701278937

United States Department of State (2021). *2022 Report on International Religious Freedom: Ghana.* https://www.state.gov/reports/2022-report-on-international-religious-freedom/ghana/#:~:text=According%20to%20the%202021%20government,or%20have%20no%20religious%20beliefs.

Weobong, B., Ae-Ngibise, K. A., Sakyi, L., & Lund, C. (2021). *Towards implementation of context-specific integrated district mental health care plans: a situation analysis of mental health services in five districts in Ghana*. https://doi.org/10.21203/rs.3.rs-1175369/v1

World Health Organization. (2022, January). *World health statistics - world health organization*. WHO Special Initiative for Mental Health Situational Assessment. https://cdn.who.int/media/docs/default-source/gho-documents/world-health-statistic-reports/worldhealthstatistics_2022.pdf

Yendork, J., Kpobi, L., & Sarfo, E. A. (2016). "It's only 'madness' that I know": Analysis of how mental illness is conceptualized by congregants of selected Charismatic churches in Ghana. *Mental Health, Religion & Culture*, 19(9), 984–999. https://doi.org/10.1080/13674676.2017.1285877