



# The influence of worship practices on views of the etiology and treatment of depression among Revivalist and Protestant pastors in the Democratic Republic of the Congo

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## ABSTRACT

Pentecostal or Charismatic Christianity (PCC) emphasises spiritual forces and the Holy Spirit's power. Concerns exist that PCC clergy might over-spiritualize mental illness, discouraging professional mental health treatment for their parishioners. This study assessed how PCC worship practices influenced pastors' views on depression in Beni, Democratic Republic of the Congo. The 2018 survey included 114 Protestant pastors using a vignette from the 2006 U.S. General Social Survey. All clergy highly endorsed situational causes of depression (86% for PCC; 97% non-PCC,  $p = .1$ ). Visiting a pastor was the most common treatment endorsed (93% for PCC; 95% for non-PCC,  $p = .3$ ). Most pastors supported a combined religious and medical approach to depression (71% for PCC; 54% for non-PCC,  $p > .9$ ). PCC-influenced pastors endorsed more spiritual and physical causes and treatments than non-PCC counterparts. The study suggests that both PCC and non-PCC-influenced Protestant clergy in this region may be effective partners for delivering evidence-based treatments for people with depression.

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## Introduction

Religious leaders are often among the first to be consulted by those suffering from mental distress (Burns & Tomita, 2015), especially in low and middle-income countries (LMICs), where mental health resources are limited, and the burden is high (Kovess-Masfety et al., 2017; Odinka et al., 2014). Because of this, religious leaders play an essential role in addressing mental health concerns and providing support and education (Agara et al., 2008; Osafo, 2016). However, how religious leaders treat and educate congregants depends on what they consider to be plausible origins and appropriate cures for a given mental illness (Esan et al., 2019).

Religious healing is central to Pentecostal or Charismatic Christianity (PCC) and shapes attitudes toward mental health diagnoses and treatments (Csordas, 1994). PCC is booming in the United States and many LMICs (Bowler, 2013; Hickman, 2014). It has grown especially fast across sub-Saharan Africa (Dein, 2020; Miller, 2013). At least a

quarter of the world's Christians are considered members of this group (Pew Research Center, 2011). PCC is diverse, but most groups share a common belief that the Holy Spirit empowers believers with sufficient faith to perform miracles, speak in tongues (i.e., a unique spiritual language), prophesize, find prosperity, and receive specific requests, such as miraculous healing through prayer (Meyer, 2004). There is a strong emphasis on the spiritual forces of evil, which can possess people and often can only be healed through exorcism (Martin, 2002).

With the dominance of PCC in many parts of the world and its focus on miraculous healing and unseen spiritual forces, a worry is adherents might be more likely to ascribe health problems to a lack of faith, unconfessed sin, or the influence of demons, which may cause people to eschew effective medical treatments and only consider religious cures like prayer, exorcism, or miraculous healings (Clarke, 2018; Trice & Bjorck, 2006). Across the subcontinent, there is a strong reliance on consulting traditional healers for help with mental disorders, which has been shown to delay accessing medical treatment (Burns & Tomita, 2015). There is a similar concern that if PCC pastors emphasise the spiritual nature of these problems, they may only suggest spiritual solutions and discourage people from seeking the help of mental health practitioners or pharmacological interventions.

There is robust evidence that PCC pastors in sub-Saharan Africa tend to over-spiritualize mental illness, both in etiology and treatment. One study of Pentecostal pastors found that the majority favoured spiritual etiologies for mental illness and often endorsed exorcism as the appropriate cure (Asamoah et al., 2014). Similarly, a study of Prayer Camp workers in Ghana also found a universal acknowledgment of the spiritual causes of mental illness with little endorsement of physical causes (Arias et al., 2016). A study of PCC faith healers in Ghana showed that such pastors' conceptions of mental illnesses are primarily limited to psychotic disorders, which they tend to treat through prayer, physical aides such as holy oil or water, and spiritual counselling (Kpobi & Swartz, 2018).

When considering the effect of such treatments on mental health from the perspective of PCC congregants in Ghana, one study found that while prophecy and miraculous healing foster a sense of optimism for many, the failure of such treatments can result in false hope, cognitive dissonance, despair, and an unhealthy dependence on religious leaders (Yendork et al., 2020). Outside of Ghana, an ethnographic study of a PCC community in northern Uganda demonstrated the importance of prayer in symptom relief for those with traumatic experiences, with prayer serving as a way to practice positive emotions and provide a sense of structure to daily life (Williams, 2021). In a similar study, Tankink (2007) found the practices of born-again churches in Southwest Uganda to be important in providing a place where those experiencing devastating war experiences could actively express their suffering in the community, cope with the past, and orient their lives toward the future.

Recognising the cultural framework of mental illness is necessary for tailoring research-based interventions to maximise the potential for positive mental health outcomes (Gonçalves et al., 2015; Rathod et al., 2018). Thus, there is a need to understand the pathway from religious beliefs to beliefs about medical conditions in contexts where PCC has a significant influence. This understanding can help governments, NGOs, and local healthcare providers determine which religious groups may be receptive to interventions, and may improve the acceptability of health interventions to specific religious groups (Asamoah et al., 2014; Mercer, 2013).

While the attitudes of PCC clergy towards mental illness have received significant attention, fewer studies have focused on Central and East Africa. Because Africa is a culturally diverse region, studies in specific countries may not generalise to other parts of the continent.

Driven by these gaps in the literature, we conducted a study of clergy in the eastern Democratic Republic of Congo (DRC). To our knowledge, clergy beliefs about mental illness have never been systematically studied in this country. In addition, owing to a recent regional war, an ongoing insurgency, and a weak central government, rates of trauma-related mental illness are high, and the availability of mental health services is low (Dumke et al., 2021; Johnson et al., 2010). The proportion of people affiliated with religion in the DRC is high; according to the 2021 U.S. State Department Report on Religious Freedom, more than 95% of the population is affiliated with a Christian denomination, with approximately 47% identifying as Catholic, 26% belonging to the Protestant umbrella organization, Church of Christ in Congo (ECC), and the remainder belonging to other Protestant and Revivalist denominations (U.S. Department of State, 2021).

Access to psychiatric care in the DRC is extremely limited. Data from the World Health Organization demonstrates a severe deficiency in the mental health infrastructure of the DRC, with only .08 psychiatrists per 100,000 people (World Health Organization, 2017). A recent study found there were only six public psychiatric hospitals and 12 private hospitals with about 500 beds for a population of over 90 million people (Ngamaba et al., 2024). The Eastern DRC has been impacted by one of the most protracted humanitarian crises in the world. The prevalence of mental health disorders is high due to poverty, exposure to violence, and frequent displacement (Ngamaba et al., 2024). In a country with high levels of need and few mental health resources, clergy could fill an important need for delivering basic mental health care (Iheanacho et al., 2021; Mendenhall et al., 2014). Religious leaders are often trusted community leaders; in one study in Ghana, about 20% of patients presenting to mental health services for the first time had already consulted a traditional healer or pastor (Appiah-Poku et al., 2004).

Partnering with religious leaders in the provision of mental health services presents important challenges (Anjorin & Hassan Waba, 2022). Foremost among these is PCC clergy may approach mental illnesses from a purely supernatural angle, which may cause them to downplay effective, evidence-based treatments. Understanding clergy attitudes toward mental health is vital for building effective partnerships between community health organisations and churches (Asamoah et al., 2014). However, very few research studies have looked at clergy attitudes towards mental illness in sub-Saharan Africa. Little is known about how PCC vs. non-PCC clergy may differ in how they approach mental illness. Understanding these differences could help tailor the development of mental health interventions to different clergy populations.

## Methods

We designed a 45-to-60-minute in-person survey for pastors and priests in Beni town, North Kivu, DRC. Due to a recent influx of refugees, Beni's population is unknown, but local estimates at the time the research was conducted placed it at around 600,000 inhabitants.

The first author developed the survey instrument with the theology faculty of a local Christian university and staff at an affiliated counselling agency. Two project staff members wrote the surveys in English and translated them into French and Swahili. The two staff members compared their translations and agreed on a final version. Two rounds of cognitive interviewing were conducted with ten people, a mix of pastors, counsellors, and faculty members. The survey was edited and adapted based on the comments received.

To generate a list of possible respondents, the study team went to the heads of the major religious groups in Beni town – Catholic, Protestant, and Revivalist – and received lists of their congregations and pastors. All major religious groups in Congo must register with the federal government. The main groups registered are the Roman Catholic Church, Protestant Churches (various denominations mainly from American Protestant missionary activity), Revivalists (two major groups in Beni; one registered with the government, the other not; we only collected lists from the registered body), and other, smaller religious groups (Seventh Day Adventists, Kimbanguists, and Branhamites). While there are similarities between churches registered as Protestant and those identified as Revivalist, Revivalist churches in the DRC generally have fewer ties to foreign missionary activity and are not associated with a formal denomination. Protestant churches, on the other hand, are registered under the umbrella organisation, Church of Christ in Congo (ECC). Also, while many Revivalist churches engage in PCC practices, these practices are not confined to churches in this group.

We generated a list of 125 congregations and the contact information for the senior leader of the church: five were Roman Catholic, 83 were Protestant, and 36 were Revivalist. The 83 Protestant churches represent most of the Protestant churches in Beni at the time of the study (spring 2018); the 36 Revivalist congregations represent about 40% of all Revivalist churches in Beni. We calculated these coverage rates using data from other work doing geo-spatial mapping of Beni.

We employed ten trained survey interviewers to contact pastors and set up interviews with as many clergy as possible. We completed 117 in-person interviews for a 94% response rate. We had a difficult time interviewing Catholic priests, and we chose not to interview four pastors who lived in an area outside of the city that was not considered secure. We only managed to interview one of the five senior Catholic priests in Beni. We dropped this case from the data. All data were recorded on a smartphone using Kobo Toolbox. The Duke University Campus Institutional Review Board approved all study procedures.

This study's primary outcomes of interest were pastors' conceptions of the etiology and treatments for mental illness. Because of limited space on the survey, we decided to focus on major depressive disorder (MDD). The most recent estimates reported that 41% of the population of the Eastern DRC had elevated depressive symptoms consistent with MDD (Johnson et al., 2010).

To determine how pastors thought about MDD, we borrowed an approach from the 2006 United States General Social Survey (GSS), similarly used by Holleman and Chaves (2023), identifying the mental health views of U.S. religious leaders. This survey included a vignette describing a person suffering from the symptoms of major depression. This vignette was added to this survey in a slightly modified form. In this study, the pastors were presented with a vignette featuring a female parishioner who has come to the

pastor with the symptoms of major depression. The English-language version of the vignette reads as follows:

For the past month, a forty-year-old woman in your congregation has been feeling really down. She wakes up in the morning with a flat, heavy feeling that sticks with her all day long. She isn't enjoying things the way she normally would. In fact, nothing gives her pleasure. Even when good things happen, they don't make her happy. She pushes on through her days, but it is really hard. The smallest tasks are difficult to accomplish. She finds it hard to concentrate on anything. She feels out of energy and out of steam. And even though she feels tired, when night comes, she can't go to sleep. She feels pretty worthless and very discouraged.

To determine their beliefs about etiology and cures for this woman's problems, respondents to the survey were asked a series of questions about the person in the vignette. They were asked, "How serious would you consider this person's condition to be?" and given the options "very serious," "moderately serious," "a little bit serious," "not at all serious," and "do not know." For regression analyses, we combined "not at all serious" and "a little bit serious" together (reference category) and "very serious" and "moderately serious" together. Respondents were then asked to answer a series of questions about the causes of these symptoms and the possible cures. While most questions corresponded to those from the 2006 United States GSS, a few were added and adapted in collaboration with local partners to better encapsulate the range of beliefs in the DRC. These questions and the response options are all listed in [Table 2](#). The table further breaks down the etiologies and cures into those with physical or biological factors and those with a spiritual focus. We collapsed these questions into a binary variable by combining "a little bit likely" and "not at all likely" together (reference) and "very likely" and "moderately likely" together.

We then created a count variable of the number of physical symptoms named as very or moderately likely and a count of the number of spiritual/supernatural variables named as very or moderately likely. These counts ranged from 0–6 for physical/situational etiologies, 0–6 for spiritual/supernatural etiologies, 0–4 for physical/relationship-based cures, and 0–3 for spiritual/supernatural cures. During cognitive pre-testing with subjects in the DRC, the questions had high acceptability and appeared to work as intended.

The primary dependent variable was the presence or absence of worship practices associated with the PCC movement. We added two questions to the survey instrument to measure PCC worship practices: "Did speaking in tongues happen during your most recent worship service," and "Did a miraculous healing occur at your last worship services." For the analysis, we combined the presence or absence of the PCC worship practices into a single dichotomised variable – either "no tongues or miracle healing" (reference) or "tongues and/or miracle healing(s)." We also recognised that the practices of miraculous healing and speaking in tongues denominations might differ across denominations, with Revivalists more likely to engage in such practices. To account for this difference, we added an indicator variable for religious denomination, using Protestant as the reference group.

Additionally, we expected that responses might differ systematically on demographic characteristics such as gender, measured as male (reference) or female; age (measured continuously); education level obtained, measured as either completion or non-completion (reference) of secondary school and university; and self-rated health, measured

as an indicator variable combining responses of “poor” and “fair” (reference) together and “good,” “very good,” and “excellent” together. We also hypothesised that responses to the woman’s condition might differ based on exposure to the mental healthcare system. We included personal experience or non-experience (reference) visiting a mental health provider and personal experience or non-experience (reference) attending a mental health workshop. Additionally, we hypothesised that people with elevated symptoms consistent with major mental health disorders may also differ systematically in how they responded to this vignette. To control for these differences, we added their score on the PHQ-9, a depression screening tool (measured on a scale of 0–27); score on the GAD-7, a generalised anxiety screening tool (measured on a scale of 0–21); and score on the PCL-5, a PTSD screening tool (measured on a scale of 0–80).

For the analyses, we calculated descriptive statistics for all independent and dependent variables stratified by PCC worship practices for the analyses. We used both two-sided Pearson chi-squared tests and Fisher exact tests to test for differences in proportions and Wilcoxon rank sum tests to test for differences in means. To test for potential confounding relationships, we used Ordinary Least Squares (OLS) regression with four separate outcome variables, each representing counts of those naming physical/situational etiologies, spiritual etiologies, physical/relational cures, and spiritual cures. In all regression analyses, an indicator variable for PCC worship practices was used to test for differences between the two groups. Coefficients with a  $p$ -value of .05 or less were considered statistically significant.

## Results

Table 1 presents descriptive statistics for this population, broken down by the presence or absence of speaking in tongues and miracle healing during previous worship services. About two-thirds (67.5%) of the pastors in the sample reported that during the worship service, there was speaking in tongues and/or miraculous healing during the past week. There are several important differences between pastors reporting PCC worship practices and those who did not. PCC worship practices are widely prevalent in Revivalist Christianity in the Eastern DRC and less prevalent among those registered as Protestants. While most pastors were Protestant, Revivalist pastors comprised 39% of the PCC group and only 2.7% of the non-PCC group ( $p < .001$ ). Most pastors were male, and those who reported PCC worship practices were significantly older (mean age 48 v. 53,  $p < .021$ ) than those who did not. PCC pastors were, overall, more educated, with 51% having completed secondary education compared to 32% of non-PCC pastors, though differences were not significant ( $p = .067$ ).<sup>1</sup> PCC pastors were also less likely to be paid for their work than non-PCC pastors (47% vs. 78%,  $p = .001$ ).

In terms of mental health characteristics, there were no significant differences between PCC and non-PCC ministers when it came to anxiety or PTSD. There were, however, significant differences concerning depression, as measured by PHQ-9 score, with PCC pastors more likely to screen positive for depression than non-PCC pastors (48% vs. 24%,  $p = .016$ ). There were also significant differences in experience with mental health visits and workshops; 42% of PCC ministers had experience visiting a mental health professional compared to 65% of non-PCC ministers ( $p = .003$ ), and 71% of PCC ministers had experience attending a mental health workshop compared to 89% of non-PCC ministers

**Table 1.** Demographic and congregation characteristics.

Characteristic	Overall, N = 114 <sup>a</sup>	No Tongues or Healing, N = 37 <sup>a</sup>	Tongues and/or Healing, N = 77 <sup>a</sup>	p-value <sup>b</sup>
Denomination				<.001
Protestant	82 (73%)	36 (97%)	46 (61%)	
Revivalist	31 (27%)	1 (2.7%)	30 (39%)	
Age	50 (11)	53 (10)	48 (11)	.021
Years of experience	14 (11)	16 (12)	13 (10)	.5
Male sex	108 (95%)	37 (100%)	71 (92%)	.2
Completion of primary education	104 (91%)	33 (89%)	71 (92%)	.7
Completion of secondary education	51 (45%)	12 (32%)	39 (51%)	.067
Completion of university education	15 (13%)	3 (8.1%)	12 (16%)	.4
Good, very good, or excellent health status	54 (47%)	14 (38%)	40 (52%)	.2
Payment for pastoral work	65 (57%)	29 (78%)	36 (47%)	.001
PHQ-9: depression	40 (40%)	8 (24%)	32 (48%)	.016
GAD-7: anxiety	43 (42%)	14 (40%)	29 (43%)	.8
PCL-5: PTSD	46 (42%)	15 (43%)	31 (42%)	>.9
Experience visiting a mental health professional	56 (49%)	24 (65%)	32 (42%)	.020
Experience participating in a mental health workshop	87 (77%)	33 (89%)	54 (71%)	.032
Average number in attendance at worship	331 (1,400)	239 (226)	375 (1,698)	.2
Women allowed to hold leadership positions	74 (65%)	22 (59%)	52 (68%)	.4

<sup>a</sup>n (%); Mean (SD).

<sup>b</sup>Pearson's Chi-squared test; Wilcoxon rank sum test; Fisher's exact test.

( $p < .032$ ). There were no significant differences in congregational characteristics between the two groups.

For the primary outcomes of interest, most pastors felt her condition was moderately or very serious regardless of worship practices (92% for PCC, 89% for non-PCC,  $p = .7$ ). Table 2 summarises the proportion of PCC and non-PCC pastors who endorsed specific etiologies as “very” or “moderately likely.” Overall, situational ideologies of depressive symptoms were two of the most likely to be endorsed, with 86% of PCC and 97% of non-PCC pastors endorsing “Stressful Circumstances” ( $p = .1$ ) and 80% of PCC and 81% of non-PCC pastors endorsing “A Traumatic Experience” as a likely cause ( $p > .9$ ). Other commonly endorsed physical/medical etiologies included “Something Physically Wrong with the Mind,” which was the most endorsed cause among the PCC group (87% and 68%,  $p = .015$ ), and “Medical Problem(s)” (75% and 58%,  $p = .07$ ). Of the spiritual causes, “Spiritual Weakness” (76% and 68%,  $p = .3$ ) and “Lack of Faith in God” (59% and 56%,  $p = .004$ ) were the most endorsed, with PCC ministers being more likely than their non-PCC counterparts to endorse “Sin” as a probable cause (61% vs. 39%,  $p = .03$ ) (Figure 1).

Table 2 and Figure 2 summarise the proportion of PCC and non-PCC pastors who endorsed the effectiveness of specific treatments as “very” or “moderately likely.” Pastors overwhelmingly saw themselves as essential sources for the treatment of depressive symptoms, with 93% of PCC and 95% of non-PCC pastors identifying “Visiting a Pastor” as “very” or “moderately likely” to be effective ( $p > .9$ ). Other treatments most endorsed by the majority of pastors included “Visiting a Medical Doctor/Nurse” (76% and 65%,  $p = .2$ ), as well as spiritual treatments of “Attending a Healing Service” (75% and 56%,  $p = .04$ ), and

**Table 2.** GSS response variables.

Characteristic	Overall, N = 114 <sup>a</sup>	No Tongues or Healing, N = 37 <sup>a</sup>	Tongues and/or Healing, N = 77 <sup>a</sup>	p-value <sup>b</sup>
Questions focused on a spiritual dimension are indicated in italics. Questions not included in the analysis are indicated by an asterix				
Seriousness	104 (91%)	33 (89%)	71 (92%)	.7
Causes (“Very” or “Moderately” Likely)				
<i>Spiritual weakness</i>	83 (73%)	25 (68%)	58 (76%)	.3
Something physically wrong with the mind	91 (81%)	25 (68%)	66 (87%)	.015
Stressful circumstances	100 (89%)	35 (97%)	65 (86%)	.10
Medical problem	78 (70%)	21 (58%)	57 (75%)	.073
<i>Sin</i>	60 (54%)	14 (39%)	46 (61%)	.032
A traumatic experience	90 (80%)	29 (81%)	61 (80%)	>.9
<i>Demon possession</i>	60 (53%)	17 (46%)	43 (57%)	.3
<i>Influence of satan</i>	56 (50%)	15 (42%)	41 (54%)	.2
Overuse of alcohol or drugs	40 (36%)	11 (31%)	29 (38%)	.4
<i>Contact with evil spirit(s)</i>	51 (46%)	12 (33%)	39 (51%)	.074
Poison*	39 (35%)	11 (31%)	28 (37%)	.6
<i>Lack of faith in god</i>	65 (58%)	20 (56%)	45 (59%)	.7
Malaria or something similar	40 (37%)	10 (29%)	30 (40%)	.3
Treatments (“Very” or “Moderately” Likely)				
<i>Private prayer</i>	66 (58%)	18 (49%)	48 (63%)	.14
Visiting a pastor	106 (94%)	35 (95%)	71 (93%)	>.9
<i>Attending a healing service</i>	77 (69%)	20 (56%)	57 (75%)	.038
Visiting a traditional healer*	2 (1.8%)	0 (0%)	2 (2.6%)	>.9
Visiting a medical doctor/nurse	82 (73%)	24 (65%)	58 (76%)	.2
Talking with a friend about the problem	42 (37%)	11 (30%)	31 (41%)	.3
Talking with a family member about the problem	36 (32%)	7 (19%)	29 (38%)	.039
<i>Exorcism</i>	32 (29%)	10 (28%)	22 (29%)	.9
Waiting for the symptoms to go away*	29 (26%)	9 (25%)	20 (26%)	.9

<sup>a</sup>n (%).

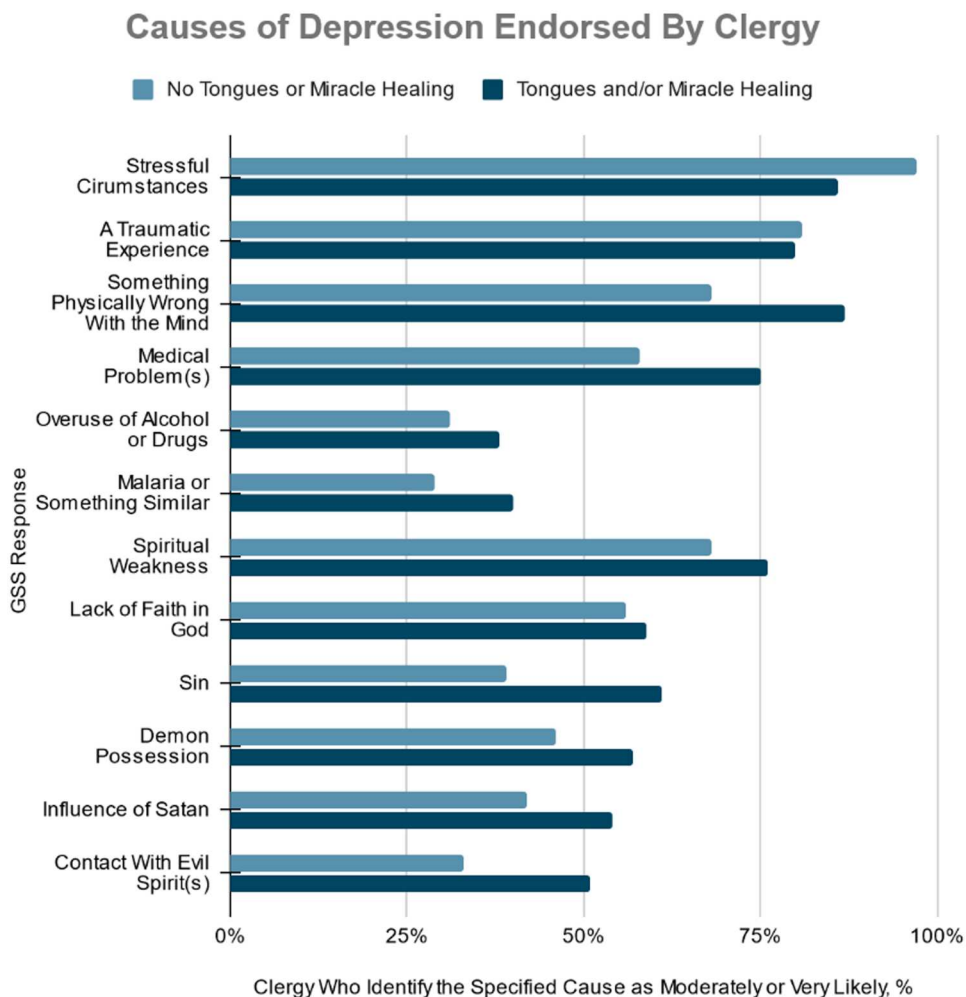
<sup>b</sup>Fisher’s exact test; Pearson’s Chi-squared test.

“Private Prayer” (63% and 49%,  $p = .14$ ). Only two pastors stated that they would recommend visiting a traditional healer.

Table 3 presents differences between pastors in endorsing a spiritual cause without concurrently endorsing a “Medical Problem(s)” as a likely cause. Most pastors endorsed both spiritual causes and the identified medical cause (68% for PCC; 51% for non-PCC), while a quarter of the participants endorsed only spiritual causes (22% for PCC; 29% for non-PCC), and a minority endorsed only the medical cause (6.6% for PCC; 8.6% for non-PCC). Differences between the two groups of pastors were not statistically significant (Fisher’s Exact test,  $p = .2$ ).

Table 3 presents differences between pastors in endorsing a spiritual treatment without concurrently endorsing “Visiting a Medical Doctor/Nurse.” Most pastors endorsed both the identified medical treatment and spiritual treatments (71% for PCC; 54% for non-PCC), while nearly a quarter of the participants endorsed only spiritual treatments (18% for PCC; 31% for non-PCC), and a small minority endorsed only the medical treatment (5.3% for PCC; 8.6% for non-PCC). Differences between the two groups of pastors were also not statistically significant (Fisher’s Exact Test,  $p = .3$ ).

Treated as counts, we summarised the average number of physical and spiritual etiologies and cures named by PCC and non-PCC pastors in Table 4. PCC pastors endorsed “very” or “moderately likely” for an average of 4 physical/situational etiologies out of six items. In contrast, non-PCC pastors endorsed an average of 3.6 items (Wilcoxon Rank-Sum Test,  $p = .11$ ). A similar pattern emerged for spiritual causes, with PCC

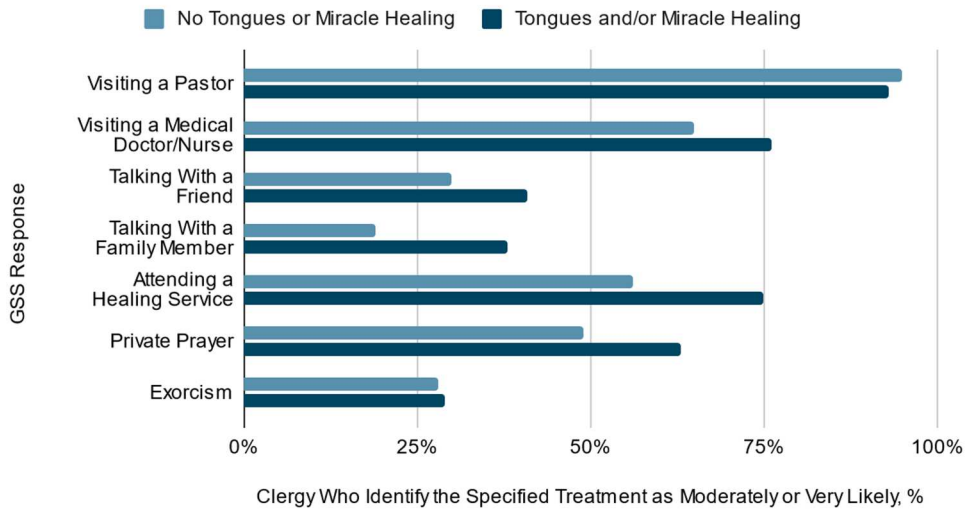


**Figure 1.** Causes of depression endorsed by clergy.

pastors naming 3.6 out of 6 items and non-PCC naming 2.9 items (Wilcoxon Rank-Sum Test,  $p = .09$ ). Regarding the number of physical/relational cures, PCC pastors endorsed an average of 2.5 out of 4 items, while non-PCC pastors endorsed an average of 2.1 (Wilcoxon Rank-Sum Test,  $p = .063$ ). The only category that varied significantly concerning worship practices was spiritual treatments, with PCC pastors endorsing an average of 1.7 out of 3 items and non-PCC pastors endorsing an average of 1.3 (Wilcoxon Rank-Sum Test,  $p = .006$ ).

Table 5 outlines several patterns that emerged from the regression. In the adjusted model, PCC worship practices were a significant predictor in all categories: spiritual and physical/situational causes and treatments, with PCC ministers endorsing more items regardless of category. Denomination served as a significant predictor in three of the categories: spiritual causes, physical/situational causes, and physical/relational treatments, with Revivalists less likely to endorse items in each of the categories. Only a handful of predictors significantly determined the number of causes/treatments endorsed. While

### Treatments of Depression Endorsed By Clergy



**Figure 2.** Treatments of depression endorsed by clergy.

**Table 3.** Spiritual and/or medical causes and treatments endorsed.

Characteristic	Overall, N = 114 <sup>a</sup>	No Tongues or Healing, N = 37 <sup>a</sup>	Tongues and/or Healing, N = 77 <sup>a</sup>	p-value <sup>b</sup>
Spiritual causes or "medical problem(s)" endorsed				.2
<i>Only spiritual cause</i>	27 (24%)	10 (29%)	17 (22%)	
<i>Both spiritual and medical cause</i>	70 (63%)	18 (51%)	52 (68%)	
<i>Neither spiritual or medical cause</i>	6 (5.4%)	4 (11%)	2 (2.6%)	
<i>Only medical cause</i>	8 (7.2%)	3 (8.6%)	5 (6.6%)	
Spiritual treatments or "visiting a medical doctor" endorsed				.3
<i>Only spiritual treatment</i>	25 (23%)	11 (31%)	14 (18%)	
<i>Both spiritual and medical treatment</i>	73 (66%)	19 (54%)	54 (71%)	
<i>Neither spiritual or medical treatment</i>	6 (5.4%)	2 (5.7%)	4 (5.3%)	
<i>Only medical treatment</i>	7 (6.3%)	3 (8.6%)	4 (5.3%)	

<sup>a</sup>n (%).

<sup>b</sup>Fisher's exact test.

**Table 4.** Number of physical/spiritual causes and treatments endorsed.

Characteristic	Overall, N = 114 <sup>a</sup>	No Tongues or Healing, N = 37 <sup>a</sup>	Tongues and/or Healing, N = 77 <sup>a</sup>	p-value <sup>b</sup>
Spiritual causes	3.35 (2.12)	2.86 (2.15)	3.58 (2.07)	.092
Physical and situational causes	3.91 (1.43)	3.61 (1.37)	4.04 (1.45)	.11
Spiritual treatments	1.54 (.82)	1.26 (.78)	1.67 (.81)	.006
Physical and relationship-based treatments	2.35 (1.11)	2.08 (1.04)	2.49 (1.13)	.063
Total causes	7.19 (2.90)	6.27 (2.92)	7.59 (2.82)	.032
Total treatments	3.87 (1.54)	3.26 (1.27)	4.16 (1.58)	.003
At least one spiritual cause	98 (88%)	29 (81%)	69 (91%)	.14
At least one physical and situational cause	107 (99%)	33 (100%)	74 (99%)	>.9
At least one spiritual treatment	98 (88%)	30 (86%)	68 (89%)	.5
At least one physical and relationship-based treatment	110 (97%)	36 (97%)	74 (97%)	>.9

<sup>a</sup>Mean (SD), n (%).

<sup>b</sup>Wilcoxon rank sum test; Pearson's Chi-squared test.

**Table 5.** Regression for religious/physical causes and treatments.

	Dependent variable:			
	Spiritual causes (1)	Physical/situational causes (2)	Spiritual treatments (3)	Physical/relational treatments (4)
Tongues and/or miracle healing	1.074** (.449)	.580* (.325)	.512*** (.184)	.580** (.244)
Revivalist denomination	-1.569** (.621)	-.992** (.435)	.053 (.253)	-.680** (.339)
Spiritual causes	1.733* (.889)	.172 (.621)	.076 (.361)	.476 (.486)
Female sex	.009 (.020)	-.024* (.014)	.006 (.008)	-.025** (.011)
Age	-.556 (.462)	.068 (.331)	-.387** (.188)	-.195 (.252)
Secondary education	.151 (.672)	-.391 (.474)	.040 (.273)	.089 (.367)
University education	-.557 (.427)	-.057 (.303)	-.189 (.174)	-.342 (.233)
Self-rated health status	-.250 (.421)	-.742** (.303)	.200 (.173)	-.135 (.228)
Mental health visit	-.106 (.571)	.747* (.412)	-.029 (.232)	.282 (.311)
Mental health workshop	.046 (.055)	-.003 (.039)	.023 (.022)	.017 (.030)
GAD total	.022 (.058)	-.003 (.041)	.006 (.024)	.004 (.032)
PHQ total	-.038*** (.014)	.008 (.010)	-.005 (.006)	-.016** (.008)
PCL total	-.001 (.001)	.0005 (.001)	-.0001 (.0004)	.00005 (.001)
Average church attendance	3.886*** (1.382)	4.498*** (.982)	.947* (.563)	3.738*** (.753)
Observations	109	105	108	110
R <sup>2</sup>	.255	.200	.176	.188
Adjusted R <sup>2</sup>	.153	.086	.062	.078
Residual Std. Error	1.941 (df = 95)	1.355 (df = 91)	.788 (df = 94)	1.060 (df = 96)
F Statistic	2.499*** (df = 13; 95)	1.753* (df = 13; 91)	1.545 (df = 13; 94)	1.713* (df = 13; 96)

\* $p < .1$ ; \*\* $p < .05$ ; \*\*\* $p < .01$ .

the number of women pastors included in the sample was limited, identifying as female gender was a significant predictor for spiritual causes. Age was a significant predictor in two categories: physical/situational causes and physical/relational treatments. Completing secondary education was a significant predictor for spiritual treatments, while completing a university education was not a significant predictor. Both experience with mental health visits and experience with mental health workshops were significant predictors of the number of physical/situational causes endorsed. While depression score and anxiety score were not significant, PTSD score as measured by the PCL-5 was a significant predictor in two of the categories: spiritual causes and physical/relational treatments, with those scoring higher on the PCL-5 endorsing fewer of both. The size of the congregation, measured in average weekly attendance, was not a significant predictor.

## Discussion and conclusions

This study was conducted with two primary aims: (1) to determine the causes and treatments of depression most likely to be endorsed by Protestant pastors, and (2) to identify differences in the endorsement of causes and treatments of depression between pastors whose churches do and do not engage in PCC worship practices. Previous research has shown that a heavy emphasis on miraculous healing and the spiritual forces of evil among pastors aligned with PCC in Africa may result in the over-spiritualization of mental illness, which could lead pastors to discourage seeking psychological or medical treatment.

In response to the depression symptoms depicted in the vignette, most PCC and non-PCC ministers recognised the seriousness of the woman's condition. Evidence of

differences between PCC and non-PCC ministers in the endorsement of spiritual and physical/situational causes of the woman's symptoms was mixed. Before adjusting for covariates, there were no significant differences in the number of spiritual or physical/situational causes between the two groups. Once we adjusted for denomination, and demographic, and mental health characteristics, however, worship practices were a significant predictor in both categories, with PCC pastors endorsing more spiritual and physical/situational causes than non-PCC pastors. Denomination was also a significant factor in both categories, with Revivalists endorsing less spiritual and physical/situational causes than Protestants after adjustment.

A bivariate test revealed a significant difference in spiritual treatments for possible effective treatments, with PCC pastors endorsing more on average than non-PCC pastors. Regression analysis, however, demonstrated that PCC and non-PCC pastors differed significantly in both treatment categories, with PCC pastors endorsing more spiritual treatments and physical/relational treatments on average. Denomination was a significant factor only for physical/relational treatments, with Revivalists endorsing fewer on average than Protestants.

When considering each of the individual causes, situational etiologies ("Stressful circumstances" and "A traumatic experience") were two of the most endorsed among both groups. This finding corresponds with the views of U.S. religious leaders, where 93% of US religious leaders vs. 89% in our study endorsed stressful circumstances, and 82% vs. 80% in our study endorsed traumatic experiences as causes of depression (Holleman & Chaves, 2023). Other physical causes widely endorsed were "Something physically wrong with the mind" (81%), where PCC pastors were more likely to endorse than non-PCC pastors (87% vs. 68%,  $p = .015$ ), and "A medical problem" (75% vs. 58%,  $p = .07$ ). Of the spiritual causes, spiritual weakness was the most likely to be endorsed (73%), with PCC pastors more likely to endorse "sin" as a likely cause than non-PCC pastors (61% vs. 39%,  $p = .03$ ). Compared to the US religious leaders, a larger proportion of pastors in the DRC endorsed spiritual causes such as demon possession (53% v. 16%) and lack of faith in God (58% v. 29%). Most pastors (68% of PCC and 51% of non-PCC) viewed a combination of both religious etiologies and medical problem(s) as likely causes of depression symptoms, with minorities (22% and 29%) endorsing only religious causes and only medical causes (6.6% and 8.6%).

In terms of treatment, pastors overwhelmingly saw themselves as essential sources of support for those suffering from depressive symptoms (93% of PCC and 95% of non-PCC). Most pastors also endorsed attending a religious healing service (75% and 56%,  $p = .038$ ) and visiting a medical doctor (76% and 65%) as effective treatment sources. Similar to the causes of depressive symptoms, many pastors (71% of PCC and 54% of non-PCC) viewed a combination of both religious treatment and visiting a medical doctor as effective for the treatment of depression symptoms, with minorities (18% and 31%) endorsing only religious causes and only medical causes (5.3% and 8.6%). Almost no clergy felt that visiting a traditional healer was likely to help. Research has shown Protestants in Africa often view traditional religious practices with suspicion and contempt, even though the healing practices of PCC pastors and traditional healers have similarities (Nkwoazana, 2015).

This evidence lends credence to the idea that, despite the heavy focus on the spiritual forces of evil and the power of miraculous healing, PCC pastors in Beni could still serve as

important sources of mental health outreach, education, and implementation moving forward. A considerable proportion of pastors, regardless of worship practices, viewed causes and treatments of depression as integrative of both biological, psychological, and spiritual components. This was especially true among PCC pastors, who endorsed more spiritual causes and treatments and more physical causes and treatments than non-PCC pastors. This finding corresponds to previous research showing that “pathways to care” for those seeking mental health treatment are often more complex than individual beliefs but also influenced by other factors such as availability and access (Burns & Tomita, 2015). Pastors embracing a combined understanding of etiology and treatment, who are often sought out by those experiencing mental distress, could serve as potential partners to public mental health through “task shifting” programmes. In low-resource settings, religious leaders have served as effective community health workers to address such gaps in care (Iheanacho et al., 2021; Ndetei et al., 2023; Zoellner et al., 2021).

Pastors recognised the seriousness of the woman’s depressive symptoms and saw themselves as important sources of help in the woman’s recovery. However, we suspect that most pastors have received little training in the area of mental illness. As it has been documented, some religious healing practices can cause harm (Ae-Ngibise et al., 2010), and so there is an urgent need to design partnerships and programmes to deliver mental health training directly to pastors.

Additionally, there is potential for mental health programmes that combine both medical and spiritual components to be adapted and delivered through both PCC and non-PCC congregations and ministers. Whereas religious diagnosis and treatment of disorders such as depression may discourage more evidence-based practices, as well as delay the seeking of such care, the integration of evidence-based medical practices alongside religious forms of care may provide a more holistic and culturally relevant approach (Burns & Tomita, 2015; Nortje et al., 2016). As demonstrated in this study, for these pastors, faith and mental health are inextricably connected, with religious beliefs influencing views about the causes and care of mental illness. Unlike in the United States, where PCC clergy are more likely to reject medical treatments for mental illness (Trice & Bjorck, 2006), in general, regardless of denomination, pastors in the DRC do not view approaching depression treatment from a biomedical perspective at odds with also seeking spiritual healing.

This study has several important limitations. First of all, because PCC is a diverse movement, the generalizability of the results of this study to other parts of Africa is unknown. Furthermore, given that this research was conducted in one city in the eastern part of the country, these results may not represent other parts of the DRC. The study only looked at the views of Protestant clergy and may not capture those of clergy from other religious traditions. Also, our operationalisation of alignment with the PCC tradition was based on whether there was speaking in tongues or a healing event in the most recent church service. These worship practices may not be completely representative of the theological beliefs that constitute PCC. It is possible that a church may not have engaged in PCC practices at the last service, even though it is a common event. Pastors may also align themselves with the PCC movement differently than their congregations. For both of these reasons, we may have mischaracterised the views of some clergy. While vignette studies are widely used in survey research and offer an improvement over asking generic survey questions (Finch, 1987), they have limitations. Most

importantly, while vignettes may help assess people's beliefs, they do not tell us what the respondent would actually do when faced with a concrete situation. The vignette, because it presented one specific case, could only probe the attitudes of pastors towards depressive symptoms and is not generalisable to other forms of mental illness. There is evidence, for example, that PCC pastors often think of psychoses as the primary form of mental illness and tend to view them from a more religious framework (Kpobi & Swartz, 2018). Thus, the views of PCC ministers may differ with depression compared to other diagnoses, especially those with psychosis present (e.g., schizophrenia). Additional research is necessary in order to compare pastors' views regarding other mental illnesses, such as psychosis, to views regarding depression. Furthermore, there is evidence that views regarding the causes and treatment of mental illness are not necessarily the sole determinants of treatment-seeking behaviour. The availability of care is another critical component that was not included in the vignette (Burns & Tomita, 2015). It is therefore necessary for additional studies to qualitatively examine the relationship between the mental health beliefs of religious leaders and the treatment sought by congregants. Finally, there is vital need for research on the best ways to conceptualise and measure inter-religious differences in Africa and how they relate to attitudes towards mental health treatment.

Ultimately, this examination of the views of pastors in Beni, DRC, revealed that, regardless of worship practices, most pastors embrace a combined religious and medical understanding of the causes and treatment of depression. While pastors following PCC practices endorsed more spiritual causes and treatments than non-PCC pastors, they also endorsed more physical causes and treatments than their non-PCC counterparts. These findings should encourage an increase in the collaboration between both Protestant and Revivalist ministers in the DRC and the public health sector in the prevention and treatment of mental health conditions such as depression. In the DRC, like many parts of sub-Saharan Africa, the mental health needs of the population far outstrip the capacity of medical providers to deliver effective care. Because pastors see themselves as important pathways to caring for individuals suffering from mental distress, they should not be ignored as partners in addressing the tremendous mental health burden in the region.

## Note

1. For simplicity's sake, we use the terminology PCC and non-PCC pastor to denote pastors who did and did not report PCC worship practices in the past week.

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## Data availability statement

Data available on request due to privacy/ethical restrictions.

## Disclosure statement

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