Research Article

Persistent Depressive Symptoms in a Population With High Levels of Occupational Stress: Trajectories Offer Insights Into Both Chronicity and Resilience

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Religious participation and spirituality are linked to good mental health. However, clergy may experience more depression than is observed in the general population, which may be due in part to high job strain. The objectives of this study were to identify distinct longitudinal trajectories of depressive symptoms in clergy and to identify variables associated with each course. The sample was 1172 clergy who were followed for up to 66 months. Depressive symptoms were measured using the Patient Health Questionnaire (PHQ-8), which was administered approximately every 6 months. Latent class trajectory analysis was conducted for group identification, and a 3-class trajectory model fit the data best. Class 1 (38% of the sample) had minimal or no depressive symptoms over time, class 2 (47%) had chronic mild symptoms, and class 3 (15%) had persistent moderate/severe symptoms. Occupational distress was significantly associated with trajectory class. The odds of being in either the chronic mild or the persistent moderate/severe depressive symptom class were significantly higher for those who were female, for those with fair/poor self-rated health, for those with more perceived financial or occupational stress, for those with lower levels of perceived emotional support, and/or for those with lower levels of spiritual well-being. The class exhibiting resilience to depressive symptoms had higher levels of perceived support and spiritual well-being as well as lower levels of perceived financial and occupational stress. A substantial percentage of clergy, and possibly people in similar helping occupations, may experience significant levels of depressive symptoms that do not remit over time. These individuals may benefit from treatments that address work-related coping. (*Journal of Psychiatric Practice 2018;24;399–409*)

Numerous studies have shown that higher levels of religious participation and spirituality are positively linked to good mental health, and that religious coping can buffer the effects of stress among those for whom religion is important.[1–3] However, clergy, as an occupational group, may experience higher rates of depression when compared with similar adults in the general population.[4] In a sample of clergy, the prevalence of depression was 8.7%[4] compared with 5.5% in a similar age group in the population of the United States, with both studies using the Patient Health Questionnaire (PHQ-9) to assess for depression.[5] A higher prevalence of depression was observed across both

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genders, with 8.8% of male clergy qualifying for depression compared with 4.4% in the general male population and 8.2% of female clergy qualifying for depression compared with 6.6% in the general female population.[4] Clergy may also experience burnout,[6] as well as high levels of occupational stress due in part to work demands.[7,8]

These higher rates of depression and stress may be due in part to high job strain, including interpersonal stress resulting from conflicting priorities and responding to congregational expectations with regard to availability, character, and performance.[8] This strain may be confounded by low financial reward relative to the effort expended[4] and the difficulty of rapidly switching between diverse roles, including counselor, public speaker, mediator, and administrator.[9]

Clergy are an excellent sample in which to explore the long-term course of depressive symptoms in a population with high levels of occupational distress. Although several large and scientifically rigorous studies have investigated work conditions and sources of support among clergy,[10] much of the earlier research has been based on small samples, poor response rates, and cross-sectional studies.

The analyses presented here take advantage of data collected through a large longitudinal study of United Methodist Church (UMC) clergy in North Carolina. Depression is a dynamic condition, and over time, depressive symptoms can be present or absent. Depressive symptoms can be problematic in several ways. Not only are they a burden to those experiencing them, but they increase the risk of major depressive disorder. In addition, people with depressive symptoms are more likely to miss work and to be less productive while at work.[11] Cross-sectional studies of depressive symptoms in populations with high levels of stress may reflect short-term states associated with specific recent events or changes in life circumstances. An examination of the trajectories of depressive symptoms can be informative in both describing the course of depressive symptoms over a longitudinal time period and identifying optimal points for interventions.

Distinct trajectories of depressive symptoms have been identified in both community and clinical samples of adults.[12–17] In a 2016 review of studies exploring long-term trajectories of depressive symptoms using group-based trajectory modeling[18] the authors reported that most studies found heterogeneity in the course of depressive symptoms

and identified either 3 or 4 distinct trajectory classes. These classes varied in terms of severity and stability over time. Although, overall, most of the individuals included in the studies that were reviewed showed minimal depressive symptoms, a notable percentage (usually <10%) showed chronic depressive symptoms. To the best of our knowledge, group-based trajectories of depressive symptoms have not been identified in a nonclinical sample of adults with high levels of occupational distress and observed high rates of depressive symptoms.

The goals of the analyses presented here were (1) to identify distinct trajectories of depressive symptoms in a sample of clergy, who were relatively homogenous in their work tasks, on the basis of their responses to a depression screening scale over a period of up to 5½ years; and (2) to identify associations between membership in these distinct trajectory classes and demographic, health, and social variables known to be correlated with major depression and/or depressive symptoms. Studies have shown that major depression and depressive symptoms are more prevalent among women, younger and middle-aged adults, unmarried adults, and white compared with Hispanic and black American adults.[19–21] Major depression and depressive symptoms are also associated with increased morbidity from chronic conditions.[22] A general population study in France found that both major depression and generalized anxiety were associated with occupational stress.[23] Higher levels of depressive symptoms have also been reported to be associated with socioeconomic disadvantage and financial strain.[24,25] Lower levels of perceived emotional support have also been found to influence the course of major depression in adults.[26,27] In the general population, greater religiousness has been reported to be associated with fewer depressive symptoms.[28] Among clergy, cross-sectional studies have found that higher levels of spiritual well-being are associated with fewer depressive symptoms.[29,30]

On the basis of previous studies that identified trajectories in nonclinical samples,[18] we hypothesized that we would identify multiple trajectories of depressive symptoms that differed in both their initial assessment and in changes over time. We anticipated 4 classes of trajectories: (1) a class with few or no depressive symptoms over time, (2) a class with persistent higher levels of depressive symptoms, (3) a class with few or no depressive symptoms in

which depressive symptoms increased over the study period, and (4) a class with significant depressive symptoms whose depression scores decreased over time. We also hypothesized that levels of occupational stress would differ across these classes and also that demographic variables, levels of social support, perceived health, and spiritual well-being would be differentially distributed across the 4 trajectory classes. For example, we hypothesized that a trajectory of persistent moderate or severe depressive symptoms would be associated with female sex, poorer health, higher levels of perceived financial and occupational stress, lower levels of social support, and lower levels of spiritual well-being.

METHODS

Study Sample

The sample was 1172 participants enrolled in a randomized trial designed for United Methodist clergy based in North Carolina to test the effects of lifestyle interventions primarily on metabolic syndrome and secondarily on stress and depressive symptoms. However, as previously reported,[31,32] the intervention had a positive effect on metabolic syndrome, but it did not have any significant effect on depressive symptoms or stress. All United Methodist clergy in the geographic region were invited to participate; they were not selected based on physical or mental health status. The trial ran from 2010 to 2016, and participants were interviewed at study enrollment and followed over time at ~6-month intervals for up to 66 months. As previously described,[31,32] there were 3 intervention cohorts in the trial. The interventions for each cohort were generally similar and ran for 2 years. Cohort 1 received the intervention January 2011 to December 2012, cohort 2 received the intervention January 2012 to December 2013, and cohort 3 received the intervention from January 2013 to December 2014. The analysis presented here controlled for the timing of the intervention. Cohort participants were assessed at 12, 18, and 24 months during the intervention. Cohort 1 was followed for 18 months postintervention, with 78% of the cohort still in the study at 42 months after the 2010 baseline. Cohort 3 was followed for 18 months postintervention, with 62% of the sample still in the survey at 66 months. Cohort 2 was not followed

postintervention. A total of 70% of cohort 2 were participating at 36 months after the 2010 baseline.

The survey research firm Westat collected the online survey data from the participants. All clergy provided informed consent to participate. The research protocols were reviewed initially and annually and approved by the Institutional Review Boards at both Duke University Arts and Sciences and Westat. To be included in these analyses, participants had to be appointed to a church either part-time or full-time at the time of study enrollment.

Measures

Depressive Symptoms

The 8-item, self-report version of the PHQ-8[5,20,33] was used to assess depressive symptoms. The PHQ-8 asks about the frequency of specific depressive symptoms experienced during the previous 2 weeks, with possible scores ranging from 0 to 24. A score of 0 to 4 represents no significant depressive symptoms, a score of 5 to 9 mild depressive symptoms, 10 to 14 moderate depressive symptoms, 15 to 19 moderately severe depressive symptoms, and 20 to 24 severe depressive symptoms. The PHQ-8 score was used as a continuous variable in these analyses.

Occupational Distress

Occupational distress was measured using the 5-item Clergy Occupational Distress Index (CODI),[34] which assesses congregational demands by asking, in the past year, how often have people in the congregation made too many demands on you or been critical of you and the things you have done and how often have you experienced stress or felt lonely or isolated in your work. Scores on the CODI range from 0 to 15, with higher scores indicating more distress. The CODI score was used as a continuous variable.

Perceived Emotional Support

Perceived emotional support was measured using the 8 emotional/informational support items from the Medical Outcomes Study-Social Support Survey (MOS-SSS).[35] Scores on this measure range from 0 to 32, with higher levels indicating more support. Perceived emotional support was used as a continuous variable in these analyses.

Spiritual Well-Being

Spiritual well-being was measured using the Clergy Spiritual Well-Being scale,[30] which includes 2 components: experiencing spiritual well-being in *the everyday* and experiencing spiritual well-being in *ministry*. Possible scores on this scale range from 0 to 24 for each component, with higher scores indicating greater spiritual well-being. Spiritual well-being in the everyday and spiritual well-being in ministry were used as continuous variables. The 2 components of spiritual well-being have been found in previous work to be highly correlated[30] and were assessed in separate models.

Demographic Variables

Demographic variables that were evaluated included age measured as a continuous variable, race category (white, black, other), sex, and marital status (married vs. not married).

Other Personal Characteristics

Other personal characteristics that were evaluated included self-rated physical health (fair/poor vs. excellent/very good/good) and self-rated financial stress (extremely, very, or moderately stressful vs. slightly or not at all stressful). Cohort assignment was controlled in these analyses based on when the participant actually received the intervention.

Statistical Analyses

All analyses were conducted using SAS Version 9.3 (SAS Institute, Cary, NC, 2011). Latent class trajectory analysis was conducted using PROC TRAJ,[36] which estimates group-based semiparametric mixture models. Two sets of models were estimated, using 1 to 4 classes each. Cubic and quadratic terms were included for each class and removed if not significant. The first set of models estimated the trajectories using the PHQ-8 score alone. The second set of models included the following 2 time-varying covariates: (1) we controlled for intervention (Y/N) at each assessment point to capture whether the participant was currently in the intervention phase; and (2) we added a second covariate to the models to indicate whether the participant had recently changed churches, as relocation has been associated with decreased mental distress for pastors.[37] The Bayesian Information Criteria statistic was used to compare models with an additional class to those

with fewer classes. In addition, class size was assessed to be sure there were sufficient participants in each class for meaningful comparisons. We estimated the latent classes with the PHQ-8 scores assuming a Poisson distribution.

Participants were assigned to the class with the highest posterior probability of membership. Classes were then compared across demographic and health variables, occupational stress, perceived emotional support, and spiritual well-being using χ^2 or F statistics. As a final step, we estimated multinomial logistic regression models to examine the probability of class membership across the covariates of interest.

RESULTS

As shown in Table 1, the sample at baseline was on average middle-aged, predominantly male, white, and married. Most of the participants reported they were in good to excellent health. Slightly fewer than half of the sample reported that their financial situation was extremely/very/moderately stressful. Occupational distress scores were slightly higher than those reported from a representative sample of all clergy in the United States.[34] Most of the sample reported strong perceived emotional support and high levels of spiritual well-being, both in the everyday and in ministry. The mean PHQ-8 score at baseline was 4.3. The median score was 3.0 (interquartile range = 1 to 6). A total of 11.5% of the sample had a PHQ-8 score of 10 or greater at the start of the study, a score which can be considered to indicate current depression.[20] A total of 6829 observations from 1172 participants were available for the longitudinal analyses. The mean (SD) number of observations per participant was 5.8 (2.7).

A 3-class trajectory model fit the data best. The Poisson models with and without the 2 time-varying covariates were highly correlated, so we used the model that controlled for the intervention period and changing churches. The trajectories are shown in Figure 1. Three distinct classes were identified in the data. Class 1 had minimal or no depressive symptoms over time (n = 449, 38% of the sample). Class 2 had mild depressive symptoms over time (n = 550, 47%), while class 3 had moderate to severe symptoms over time (n = 173, 15%). The mean posterior probabilities showed good class separation. The mean membership probability for class 1 was 0.95 (range: 0.54 to 1.00), the mean probability for class 2 was 0.94 (range: 0.51 to 1.00),

TABLE 1. Characteristics of the Sample at Baseline by Trajectory Class

	Mean (SD)/n (%)				
	Total Sample (N = 1172)	Persistent Minimal/No Depression (n = 449)	Persistent Mild Depression (n = 550)	Persistent Moderate or Severe Depression (n = 173)	Significance
Age (y)	51.5 (10.4)	52.6 (10.5)	51.0 (10.2)	50.1 (10.4)	$F_{2,1169} = 4.7$, $P = 0.0096$
No. female	381 (33%)	123 (27%)	202 (37%)	56 (32%)	$\chi^2_2 = 9.8$, $P = 0.0074$
No. white	1044 (89%)	388 (86%)	499 (91%)	157 (91%)	$\chi^2_4 = 7.2$, $P = 0.1242$
No. black	70 (6%)	35 (8%)	29 (5%)	6 (3%)	—
No. other	58 (5%)	26 (6%)	22 (4%)	10 (6%)	—
No. married	1043 (89%)	402 (90%)	478 (87%)	163 (94%)	$\chi^2_2 = 7.4$, $P = 0.0248$
No. cohort 1	361 (31%)	142 (32%)	159 (29%)	60 (35%)	$\chi^2_4 = 2.8$, $P = 0.5947$
No. cohort 2	348 (30%)	130 (29%)	166 (30%)	52 (30%)	—
No. cohort 3	463 (39%)	177 (39%)	225 (41%)	61 (35%)	—
No. fair/poor self-rated health	173 (15%)	31 (7%)	89 (16%)	53 (31%)	$\chi^2_2 = 57.6$, $P < 0.0001$
No. financial situation extremely/very/moderately stressful	529 (45%)	133 (30%)	281 (51%)	115 (66%)	$\chi^2_2 = 83.3$, $P < 0.0001$
Occupational distress	6.5 (3.0)	5.4 (2.5)	6.8 (2.9)	8.7 (3.1)	$F_{2,1169} = 88.9$, $P < 0.0001$
Perceived emotional support	24.1 (6.1)	25.8 (5.1)	23.7 (6.0)	20.8 (7.5)	$F_{2,1169} = 46.2$, $P < 0.0001$
Spiritual well-being in the everyday	15.4 (4.8)	17.0 (4.4)	15.0 (4.5)	12.7 (5.0)	$F_{2,1169} = 62.4$, $P < 0.0001$
Spiritual well-being ministry	16.2 (4.6)	17.5 (4.5)	15.7 (4.4)	14.4 (4.8)	$F_{2,1169} = 37.0$, $P < 0.0001$
PHQ-8 score	4.3 (4.1)	1.4 (1.5)	4.8 (3.1)	10.1 (4.8)	$F_{2,1169} = 548.4$, $P < 0.0001$

*PHQ-8 indicates the 8-item, self-report version of the Patient Health Questionnaire.*

and the mean probability for class 3 was 0.95 (range: 0.53 to 1.00).

As shown in Figure 1, the PHQ-8 scores tended to be consistent over time for each class. Two of the 3 classes (62% of the sample) had on average at least persistent mild depressive symptoms over time. The classes differed on several characteristics as shown in Table 1. The class with minimal or no depressive symptoms was on average slightly older, more likely to be male and in better (self-rated) physical health, reported less perceived financial stress and occupational distress, and had higher levels of perceived emotional support and spiritual well-being compared with the 2 classes with higher levels of depressive symptoms over time. The associations followed a fairly consistent pattern across the 3 classes from persistent minimal/no depressive symptoms to persistent moderate or severe symptoms. For example, the persistent minimal/no depressive symptom class had lower occupational distress scores (mean = 5.4), whereas the occupational distress scores were higher for the mild symptom class (mean = 6.8) and

FIGURE 1. Mean Patient Health Questionnaire (PHQ-8) depression scores over time by trajectory class (n = 1172).
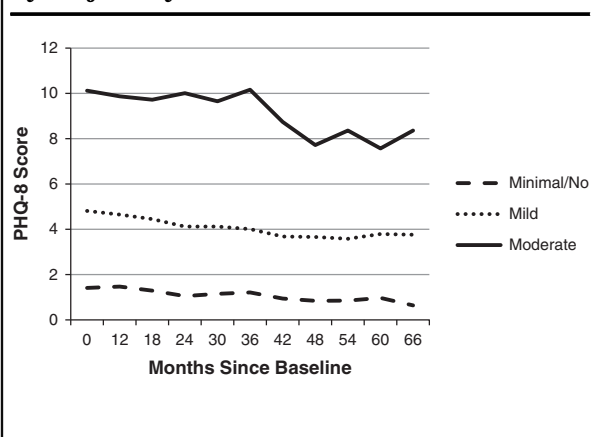
higher still for the persistent moderate/severe class (mean = 8.7). Clear increasing or decreasing patterns by depressive symptom class were observed for all but 2 variables. The proportion of women was higher in the class with mild depressive symptoms than in the class with minimal/no symptoms. However, the proportion of women was lower in the moderate/severe class than in the mild symptom class while still higher than in the minimal/no symptom class. Also, the proportion of married participants was lower in the class with persistent mild depressive symptoms and higher in the class with moderate/severe depressive symptoms than in the minimal/no symptoms class.

The results of the multinomial logistic regression model including the variable spiritual well-being in the everyday are shown in Table 2. In this model, trajectory class is the dependent variable, with the

TABLE 2. Results of the Multinomial Logistic Regression Model Showing the Associations Between Selected Variables, Including Spiritual Well-Being in the Everyday (N = 1172)*

	Persistent Mild Depressive Symptoms (47%)			*Persistent Moderate or Severe Depressive Symptoms (15%)*				
	Estimate	*SE*	*Odds Ratio (95% CI)*	*Estimate*	*SE*	*Odds Ratio (95% CI)*	*Wald χ^2 [2 df]*	*P*
Intercept	1.01	0.64		−1.27	0.96			
Age (y)	−0.01	0.01	1.00 (0.98-1.01)	−0.01	0.01	1.00 (0.98-1.02)	0.4	0.7993
Female	0.48	0.16	1.62 (1.18-2.22)	0.63	0.24	1.88 (1.18-2.99)	10.8	0.0044
Black	−0.07	0.21	0.67 (0.39-1.17)	−0.30	0.37	0.53 (0.19-1.45)	5.4†	0.2498
Other	−0.26	0.23	0.56 (0.29-1.06)	−0.04	0.35	0.68 (0.27-1.70)	—	—
Married	−0.01	0.23	1.00 (0.63-1.58)	1.25	0.43	3.50 (1.52-8.07)	10.7	0.0046
Cohort 1	−0.17	0.10	0.77 (0.56-1.07)	−0.08	0.15	0.94 (0.58-1.52)	3.3†	0.5077
Cohort 2	0.08	0.10	0.99 (0.71-1.37)	0.10	0.15	1.12 (0.68-1.85)	—	—
Fair/poor self-rated health	0.77	0.23	2.15 (1.36-3.39)	1.33	0.28	3.77 (2.16-6.58)	21.8	< 0.0001
Financial situation stressful	0.64	0.15	1.89 (1.42-2.51)	0.88	0.22	2.42 (1.57-3.72)	24.2	< 0.0001
Occupational distress	0.14	0.03	1.15 (1.09-1.21)	0.33	0.04	1.38 (1.29-1.49)	75.1	< 0.0001
Perceived emotional support	−0.04	0.01	0.96 (0.94-0.99)	−0.08	0.02	0.92 (0.89-0.95)	22.3	< 0.0001
Spiritual well-being in the everyday	−0.07	0.02	0.93 (0.90-0.96)	−0.14	0.02	0.87 (0.83-0.91)	36.6	< 0.0001

*Reference group is the trajectory class of those with minimal/no depressive symptoms (38% of the total sample).
†Four degrees of freedom for the Wald-χ^2 comparing the overall association between the covariate of interest and trajectory class across the 3 classes.
CI indicates confidence interval; df, degrees of freedom.

reference group being the class with minimal/no depressive symptoms. That is, the odds of class membership in the group with persistent mild symptoms are compared with the odds of being in the minimal/no symptom class. Within the same model, the odds of being in the persistent moderate/severe symptom class are also compared to the odds of being in the minimal/no symptom class.

Variables that were significant across classes in the bivariate analyses remained significant in the controlled analyses across classes and in the directions expected, except for age which was no longer significantly different across classes. These findings suggest the effect of age observed in the uncontrolled analyses (Table 1) is primarily indirect through other variables in the model. As hypothesized, the effect of occupational stress differed across classes. The odds of being in either the persistent mild or the persistent moderate/severe depressive symptom class, compared with the persistent minimal/no symptom class, were significantly higher for those who were female, had fair/poor self-rated health, reported more financial stress and higher levels of occupational distress, had lower levels of perceived emotional support, and had lower levels of spiritual well-being in the everyday. The effect of marital status on class membership did not differ between the persistent mild depressive symptom class and the minimal/no depressive symptom class, whereas those who were married had an increased probability of being in the persistent moderate/severe class compared with the minimal/no depressive symptom class. However, only 10 participants in the moderate/severe depressive symptom class were not married so that these findings must be interpreted with caution.

TABLE 3. Results of the Multinomial Logistic Regression Model Showing the Associations Between Selected Variables, Including Spiritual Well-Being In Ministry (N = 1172)*

	Persistent Mild Depressive Symptoms (47%)			Persistent Moderate or Severe Depressive Symptoms (15%)			Wald χ^2 [2 df]	P
	Estimate	SE	Odds Ratio (95% CI)	Estimate	SE	Odds Ratio (95% CI)		
Intercept	1.06	0.65		−1.53	0.97			
Age (y)	−0.01	0.01	1.00 (0.98-1.01)	−0.01	0.01	1.00 (0.97-1.02)	0.5	0.7969
Female	0.44	0.16	1.56 (1.14-2.13)	0.54	0.23	1.72 (1.09-2.72)	8.9	0.0119
Black	−0.07	0.21	0.66 (0.38-1.15)	−0.36	0.37	0.45 (0.17-1.24)	6.6†	0.1581
Other	−0.28	0.23	0.59 (0.28-1.02)	−0.08	0.34	0.59 (0.24-1.47)	—	—
Married	−0.03	0.24	0.97 (0.61-1.54)	1.20	0.42	3.33 (1.46-7.60)	10.4	0.0054
Cohort 1	−0.18	0.10	0.75 (0.54-1.03)	−0.09	0.15	0.90 (0.55-1.45)	3.6†	0.4684
Cohort 2	0.06	0.10	0.95 (0.69-1.32)	0.07	0.15	1.06 (0.64-1.74)	—	—
Fair/poor self-rated health	0.78	0.23	2.19 (1.39-3.45)	1.40	0.28	4.06 (2.35-7.04)	25.0	< 0.0001
Financial situation stressful	0.67	0.15	1.96 (1.47-2.60)	0.94	0.22	2.57 (1.67-3.94)	27.5	< 0.0001
Occupational distress	0.13	0.03	1.14 (1.08-1.20)	0.32	0.04	1.38 (1.28-1.49)	75.6	< 0.0001
Perceived emotional support	−0.04	0.01	0.96 (0.93-0.98)	−0.10	0.02	0.91 (0.88-0.94)	30.9	< 0.0001
Spiritual well-being ministry	−0.06	0.02	0.94 (0.91-0.97)	−0.09	0.02	0.91 (0.87-0.96)	20.4	< 0.0001

Reference group is the trajectory class of those with minimal/no depressive symptoms (38% of the total sample).
†*Four degrees of freedom for the Wald-χ^2 comparing the overall association between the covariate of interest and trajectory class across the 3 classes.*
CI indicates confidence interval; df, degrees of freedom.

As shown in Table 3, the same patterns across the classes were observed in the multinomial model including spiritual well-being in ministry as were found in the model that controlled for spiritual well-being in the everyday.

DISCUSSION

This research produced several new findings. A majority of the sample experienced a clinically meaningful level of persistent depressive symptoms or symptoms above the no/minimal level, and 15% experienced on average persistent symptoms that were in the moderate to severe range. While some clergy likely experienced changes from 1 year to the next, the groups as a whole did not experience much change over the longer 5-year study period. While these analyses identified variables associated with persistent mild to moderate/severe depressive symptoms, including female sex, poorer self-rated health, higher levels of reported financial and occupational stress, lower levels of perceived emotional support, and lower levels of spiritual well-being, these findings also offer insights into a group with this same occupation who exhibited resilience against depression. Within this resilient group, higher levels of perceived emotional support and spiritual well-being were protective against depressive symptoms as were lower levels of perceived financial and occupational stress, although temporal ordering was not established.

While we identified distinct groups of clergy based on their PHQ-8 scores over time, the data did not support all of our hypotheses. The data supported our hypothesis that there would be a group of clergy with persistent no/minimal symptoms and a group with persistent higher levels of depressive symptoms, although the proportion in the group with persistent moderate to severe symptoms was higher than the <10% generally observed across studies in the general population.[18] One explanation for this higher proportion in the group with moderate to severe symptoms as well as higher levels of persistent mild symptoms is the nature of the occupation itself. Another possible explanation for this higher proportion is that people who are predisposed to depression may self-select into ministry. For example, troubled young adults who find healing in the church may be more likely to spend time at church and later be encouraged to enter ministry.

The data did not support our hypothesis that there would be a group of clergy who experienced a significant increase in depressive symptoms over the study period. Also, while the model coefficients showed that all groups showed a slight decrease in symptoms over time, none of the groups had a significant decrease in scores over time—that is, the patterns of increasing and decreasing levels of symptoms observed in nonclinical samples[18] differed from the stability or persistent levels of symptoms observed in our study. It is not immediately clear why we did not observe increasing and decreasing patterns. Clergy experience this low level of stress from their occupational responsibilities and these responsibilities do not significantly change over time. For example, clergy may periodically change churches, but they keep the same jobs. Clergy probably also have fairly consistent support systems in place which can potentially protect against milder symptoms becoming more severe.

It is possible sampling methods may explain why we did not observe patterns as hypothesized and observed in general population samples. Our sample was predominantly male, whereas community samples generally have higher proportions of women than men. Our sample was also more likely to be married and marital status differed by gender. Almost all of the men in our sample were married (96%), whereas 74% of the female clergy were married. Research has shown that it is the quality of the marriage rather than the marriage itself that links marriage to positive mental health.[38] It is possible that the nature of the occupation or the depressive symptoms themselves may introduce marital strain in this population. The relationship between marital status and depressive symptoms will be the focus of additional work.

Our sample was drawn from a group of clergy participating in a randomized clinical trial to improve physical and, secondarily, mental health. However, the intervention in the clinical trial did not have a direct effect on depression outcomes,[32] and therefore the intervention is less likely to have affected our trajectories. Finally, our trajectories were essentially linear with only small improvements over time. We did not observe an optimal point for intervention, suggesting interventions at

any point could potentially change the course of depressive symptoms in this population.

Do these findings provide data that can help identify potential interventions? Congregations can help their clergy in physical and mental health promotion. Encouraging days off and reducing occupational distress through fewer congregational demands and criticisms could potentially lead to better mental health in this at-risk population. Encouraging exercise and healthy eating could also help not only physical but mental health. Clergy have high rates of risk factors for physical health problems and chronic disease.[39]

Clinicians treating clergy should be aware of several points about this population. First, clergy report being reluctant to seek professional mental health care due to concerns about perceptions from both their congregants and clergy supervisors that they may be unfit to lead their congregations.[40] Second, clergy are on call for a variety of situations, work irregular hours, and often deal with difficult interpersonal situations, which is similar to other helping professionals. A substantial percentage of clergy in our sample, and possibly people in other similar helping occupations, may experience significant levels of depressive symptoms that do not remit over time. These individuals may benefit from treatments that address work-related coping. Such coping strategies may include helping clergy recognize the importance of engaging in practices that promote health and well-being, helping clergy set boundaries between their work and personal/family life which may in turn reduce marital strain, and encouraging self-acceptance even when work is difficult.[41] A qualitative study found that clergy with positive mental health reminded themselves that the process of working with congregants is more important than immediate results[41]; this focus on process may be a helpful coping strategy for people in other helping occupations as well.

This research had several limitations. Depressive symptoms were measured using the self-report PHQ-8 and were not confirmed through a psychiatric interview, although the use of self-administered measures is standard practice. Depression assessments were obtained every 6 to 12 months, and we recognize that symptoms and PHQ-8 scores may have changed in the interim. Our analyses described

relationships between self-rated health, perceived financial stress, perceived emotional support, and spiritual well-being at baseline and trajectory class. We did not measure change in these variables over the study period, which could have affected the trajectories. Future research will describe the conjoint associations among some of these variables and PHQ-8 scores over time. In this study, we utilized data collected for the primary purpose of evaluating a holistic health intervention. To adjust for this effect, we controlled the timing of the interventions in our models. The trajectories, however, were essentially unchanged from those without that control, suggesting that the intervention did not have a significant effect on the latent trajectories, which have the additional benefit of accounting for unmeasured variables. Finally, as with any longitudinal study, we experienced attrition.

This study also had many strengths, perhaps most notably that longitudinal data were collected mostly at 6-month intervals for up to 5½ years, which allowed us to examine PHQ-8 scores over multiple time points. Our sample included clergy across all age groups, and the sample involved a large proportion of men enabling us to describe trajectories in a predominantly male population. Because the clergy in our sample were essentially homogenous in terms of education, income, and occupation, we were able to focus on associations unique to this occupational group, including spiritual well-being and occupational distress.

These findings have clinical implications beyond this profession for individuals in similar helping occupations. For example, in one study comparing clergy burnout with burnout in other helping professions, burnout scores were relatively better among clergy than among police and emergency personnel, similar to those among teachers and social workers, but higher than those of counselors.[42] That is, clergy are like other helping professionals in that they are essentially on call with limited control over the hours that they work and, even though they sometimes handle acute and serious issues, they more frequently encounter numerous constant small hassles. Those in helping professions, including clergy, generally self-select into their vocations and tend to stay in these roles for many years. It would be interesting to know whether the classes with persistent depressive symptom found in this sample of clergy would also be observed in other

groups of helping professionals, or whether other groups would experience increases and/or decreases in symptoms over time.

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