Using Effort-Reward Imbalance Theory to Understand High Rates of Depression and Anxiety Among Clergy

Rae Jean Proeschold-Bell, Ph.D.

Duke Global Health Institute, Duke University Center for Health Policy and Inequalities Research, Durham, NC

Andrew Miles, Ph.D.

Department of Sociology, Duke University, Durham, NC

Matthew Toth, Ph.D.

Gillings School of Global Public Health, University of North Carolina Chapel Hill, Chapel Hill, NC

Christopher Adams, Ph.D.

Division of Student Life, Office of the Campus Pastors, Graduate Department of Psychology, Azusa Pacific University, Azusa, CA

Bruce W. Smith, Ph.D.

Department of Psychology, University of New Mexico, Albuquerque, NM

David Toole, Ph.D.

Duke Divinity School, Duke University, Durham, NC

Please direct comments to

Rae Jean Proeschold-Bell

at rae.jean@duke.edu.

Abstract

The clergy occupation is unique in its combination of role strains and higher calling, putting clergy mental health at risk. We surveyed all United Methodist clergy in North Carolina, and 95% (n = 1,726) responded, with 385 responding via phone interview. We compared clergy phone interview depression rates, assessed using the Patient Health Questionnaire (PHQ-9), to those of in-person interviews in a representative United States sample that also used the PHQ-9. The clergy depression prevalence was 8.7%, significantly higher than the 5.5% rate of the national sample. We used logistic regression to explain depression, and also anxiety, assessed using the Hospital Anxiety and Depression scale. As hypothesized by effort-reward imbalance theory, several extrinsic demands (job stress, life unpredictability) and intrinsic demands (guilt about not doing enough work, doubting one's call to ministry) significantly predicted depression and anxiety, as did rewards such as ministry satisfaction and lack of financial stress. The high rate of clergy depression signals the need for preventive policies and programs for clergy. The extrinsic and intrinsic demands and rewards suggest specific actions to improve clergy mental health.

Keywords: Depression, Anxiety, Clergy, Effort-reward imbalance theory, Mental health

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Introduction

Researchers have long sought to explain the relationship between work-related stress and poor health outcomes. Evidence suggests that demanding work environments that elicit fears of failure among employees create negative emotions that lead, in turn, to adverse physiological responses and health disorders (Cartwright & Cooper, 2008; Schnall, Dobson, Rosskam, Baker, & Landsbergis, 2008; Weiner, 1992). Few researchers have studied the physical or mental health of clergy, despite the fact that they constitute a sizable occupational group. The United States (US) Department of Labor (2012) estimated that in 2010 there were 230,800 clergy of all faiths, with a predicted growth rate of 18 % by 2020. Clergy work under an interesting set of circumstances, which is arguably unique in its combination of responsibilities. Six central roles of clergy have been identified (Blizzard, 1956; Milstein et al., 2005). The first role is ‘‘ritualist’’ which includes administering sacraments such as baptism and facilitating rites of passage such as weddings. The second role is that of ‘‘pastor’’ in which clergy interact one-on-one with congregants, including engaging in counseling and visiting sick congregants; clergy spend approximately one-fifth of their time providing pastoral care (Carroll, 2006). The third role is that of ‘‘preacher’’ in which clergy communicate with many congregants to guide and inspire them; clergy spend approximately one-third of their time preparing for preaching and worship (Carroll, 2006). Clergy are also ‘‘teachers’’ in that they oversee the congregation’s educational programs and engage in the informal education of congregants. The fifth role is that of ‘‘organizer’’ in which clergy facilitate activities within their denomination as well as with other denominations, and work with community organizations for social justice. Finally, the sixth role is that of ‘‘administrator’’ in which clergy oversee church staff, committees, buildings, and budget. Through these roles, clergy often negotiate difficult situations, such as conflict in regards to what role the church should play in the surrounding community, limited funds in the church budget, and the illness or death of congregants (Kuhne & Donaldson, 1995). In addition, clergy are often the first responders in a time of crisis (Bohnert et al., 2010; Chatters et al., 2011; Darling, Hill, & McWey, 2004; Weaver, 1995), including being the first support sought by nearly one-quarter of all people in the US seeking help for a serious mental illness (Wang, Berglund, & Kessler, 2003). These responsibilities create a workday that is busy, fragmented, and varied, with little predictability (Kuhne & Donaldson, 1995).

The clergy vocation is also potentially fraught with stress, especially relational stress. Churches vary in their expectations of pastors and do not always make those expectations clear. In addition, clergy are typically leaders of an all-volunteer staff of congregants. Navigating available volunteer skill sets and establishing a shared vision can be challenging. Simultaneously, clergy are positioned to respond to the emotional needs of congregants and must be seen as responsive and caring, even while trying to move work agendas forward. Furthermore, church contexts vary, with some churches thriving and expanding and others struggling and shrinking. Inserted into that context is the pastor’s highly visible family, for whom congregants often have

additional expectations (Lee & Iverson-Gilbert, 2003; Morris & Blanton, 1998). Lee and Iverson-Gilbert (2003) have proposed four essential ministry stressors: personal criticism, boundary ambiguity, presumptive expectations, and family criticism.

The clergy occupation has three other notable characteristics. First, clergy feel called by God to their vocation (Campbell, 1994; Niebuhr, 1957). This call has been described as the confluence of three things, the first of which is a highly personal sense of wanting to serve God through ministry, which occurs sometimes through a specific incident or unfolds over a number of years. However, a desire to serve God is not enough; the church must affirm this sense, which generally occurs when a clergy person or member of the congregation suggests to individuals that they would be a good leader. These first two aspects of call must be joined by individuals' beliefs that they either possess or can master the skills needed to become an effective clergy person. By the time they are ordained (i.e., credentialed as a member of the clergy), they have generally experienced all three aspects of being called. This call imbues their work with personal spirituality and increases the stakes of perceived failure (Pargament & Mahoney, 2005; Stewart-Sicking, Ciarrocchi, Hollensbe, & Sheep, 2011).

Second, in addition to feeling called, clergy can face high expectations for their behavior from their congregations or communities, who might perceive them as holy people without weaknesses (Rayburn, Richmond, & Rogers, 1986). This expectation serves to isolate clergy by creating a dynamic in which people relate to them unidirectionally, with the assumption that the clergyperson needs less support than everyone else. Simultaneously, clergy avoid confiding in others about problems, such as difficulties with individual congregants or church committees, for fear of creating tension in the church. Some studies have found that clergy have relatively few confidants (Carroll, 2006; Weaver, Larson, Flannelly, Stapleton, & Koenig, 2002).

A third characteristic of their vocation is that clergy experience simultaneously high levels of both positive and negative affect (Stewart-Sicking, 2012). At times, this is a direct result of fulfilling their occupational responsibilities, such as when they experience joy and grief by conducting weddings and funerals. Paradoxically, clergy may suffer from depression or anxiety while also being highly satisfied with their work.

Although clergy of different Christian denominations hold somewhat different beliefs, their work shares substantial similarities. Studies comparing the work of Christian clergy reveal that clergy roles, time use, and job demands are similar across United Methodist (UM), Baptist, Pentecostal, Lutheran, Presbyterian, Episcopalian, and United Church of Christ denominations, as well as with Catholic priests (Carroll, 2006; Dewe, 1987; Frame & Shehan, 1994; Gleason, 1977; Kay, 2000; Kuhne & Donaldson, 1995; Noller, 1984). Notably, these studies span diverse geographical locations, including the US, England, Wales, Hong Kong, New Zealand, and Australia.

Effort-Reward Imbalance Theory

Several theories have attempted to delineate the specific stressors present in demanding work environments, and the interactions among them, to explain health outcomes (Ferris, Kline, & Bourdage, 2012; Shirom, Toker, Alkaly, Jacobson, & Balicer, 2011). Effort-reward imbalance theory, proposed by Siegrist (1996), postulates that high effort paired with low reward leads to

emotional distress and poor health outcomes. The specific stressors defined by Siegrist are extrinsic and intrinsic demands, and the absence of rewards. Examples of high extrinsic demands include a high workload without enough resources to do the work, high responsibility, and structural role conflicts (Siegrist & Matschinger, 1989). Examples of high intrinsic demands include ''vigor'' (an intense commitment to work, driven by perfectionistic thinking), an inability to get away from work responsibilities, and ''immersion'' (a combination of need for approval and competitiveness; Siegrist & Matschinger, 1989). Examples of rewards include money, approval, and status control, that is, maintaining one's job stability and social role at work (Siegrist, 1996; Siegrist & Matschinger, 1989). In this theory, the reward of status control is particularly important, as it is hypothesized that changes in status control are harder to adjust to than changes in demands or other rewards (Siegrist & Matschinger, 1989). For example, when faced with a higher workload, one can adjust by working harder or by decreasing one's expectations of oneself. In contrast, little can be done when faced with the inability to maintain or improve one's status at work.

We can apply effort-reward imbalance theory to the clergy occupation. Among the extrinsic demands placed on clergy are the expectations of their congregants, which are typically high and, at times, overly demanding. In addition, clergy experience the extrinsic demand of criticism. Criticism is more likely to be directed to clergy than other congregants because clergy occupy a highly visible and formal position and are considered to be ultimately responsible for the congregation's affairs (Krause, Ellison, & Wulff, 1998). At the same time, the frequent positive interactions that clergy experience can lead them to expect such interactions on a consistent basis, making negative interactions particularly striking and emotional. This combination of demandingness and criticism has been found to relate to depressed affect in clergy (Krause et al., 1998). Clergy must also manage a schedule that is often unpredictable due to unanticipated deaths and congregant crises, and includes high-conflict committee meetings, rapid switching between tasks throughout the day, and seasonal periods of increased time demands (Kuhne & Donaldson, 1995). Another extrinsic demand is the social isolation that many clergy experience insofar as congregants set clergy apart as holy people. Intrinsic demands, defined as strong commitment to work and high role immersion (Siegrist & Matschinger, 1989), are particularly strong for clergy, who feel a sacred call to their vocation. A strong sense of call may lead to high intrinsic demands that pastors place on themselves. With an impossible demand to meet, they may feel guilty for ''not doing enough.'' One's sense of call to ministry can change over time, and doubting that call may also create psychological strain.

In effort-reward imbalance theory, these external and intrinsic demands are weighed against vocational rewards, such as money, approval, and status control. The median 2010 salary for clergy in the US was just under $44,000 (US Department of Labor, 2012), which is lower than the average $67,000 annual salary that someone with a master's degree in the US earns (US Department of Labor, 2013). However, clergy salaries vary, and their degree of financial stress also varies based on factors such as family size and educational debt. In terms of approval, a pastor's work is judged by multiple sources, including denomination officials, church members, and the pastors' own beliefs as to whether they are living in a way that is consistent with their

beliefs and commitments. These sources of approval may conflict in their assessment of any given pastor at any given time. Interestingly, Siegrist (1996) does not list personal satisfaction with the work itself as a reward. However, given the strong personal and spiritual pull that clergy feel to their work, it seems likely that they experience pastoral success as a reward.

The final reward identified by Siegrist (1996) is status control, which is the ability to control one's social role and its value. Generally, status control is uncertain for clergy, despite their high level of education. Churches that hire their own pastors can force pastors to leave. In denominations like the United Methodist Church (UMC), officials assign pastors to churches and give them little say about church size, location, or political orientation. However, pastors who are viewed as successful are rewarded with larger, and therefore higher-paying, churches; thus, improved status can be achieved, although its duration is uncertain.

Depression and Anxiety

We sought to apply effort-reward imbalance theory to understand the potential contributors to clergy depression and anxiety. Depression is currently a leading cause of disability worldwide, including diminished physical and social functioning and impaired role functioning (Daly et al., 2010). Workers with depression exhibit a higher rate of unemployment, absenteeism, and poor work performance, all of which worsen with more severe depressive symptoms, which can, in turn, be exacerbated by work stressors (Lagerveld et al., 2010; Lerner et al., 2010; Lerner & Henke, 2008). Anxiety is also associated with functional impairment and a decrease in overall well-being (Kroenke, Spitzer, Williams, Monahan, & Lo¨we, 2007), as well as poorer quality of life (Mendlowicz & Stein, 2000).

Depression in Clergy

Only a few researchers have reported depression prevalence rates for clergy using validated measures. Researchers using the Center for Epidemiological Studies Depression (CES-D) scale (Radloff, 1977) have reported depression rates ranging from 17 % for 30 Church of Nazarene pastors in New Mexico (Proulx, 2008), to 18 and 20 % for Roman Catholic clergy (Knox, Virginia, & Lombardo, 2002; Knox, Virginia, Thull, & Lombardo, 2005). Researchers using the Symptom Checklist-90-Revised found that 41 % of 44 Roman Catholic clergy exhibited depressive symptomatology (Knox, Virginia, & Smith, 2007). Rates of clergy depression appear high from these studies, but they suffer from small sample sizes and possible response biases.

Anxiety in Clergy

Anxiety among the clergy population is understudied and somewhat conflicting in that some studies report lower levels of anxiety among clergy than the general population, whereas others report higher levels. For example, Knox et al. (2002) reported that 18 % of Catholic priests experienced state anxiety using the State-Trait Anxiety Inventory (STAI) Form Y (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). In a study of Anglican clergy in the United Kingdom, Jones, Francis and Jackson (2004) compared clergy rates of anxiety to those of the general population using the Eysenck Personality Profiler (Eysenck, Barrett, Wilson, & Jackson, 1992). They found that male clergy had significantly higher scores on the anxiety sub-factor than men in the general population, that female clergy had significantly lower scores on the anxiety sub-factor than women in the general population, and that there were no significant differences in anxiety scores between male and female clergy. In contrast, Musson (1998) found that male clergy had lower rates of anxiety than the general population. Other studies support this conclusion but are either based on a small sample or were conducted with seminary students who do not have the same vocational responsibilities as clergy (Musson, 1998; Pallone & Banks, 1968).

Study Aims and Hypotheses

In this paper, we first sought to examine clergy mental health using an occupational theory that would help us hypothesize low or high rates of depression and anxiety among clergy. Second, we sought to improve upon the methodological quality of existing clergy depression and anxiety prevalence studies and report rates of these conditions among a large sample of UMC clergy. Third, we sought to examine determinants of clergy anxiety and depression, and fourth, to consider these determinants in light of effort-reward imbalance theory in order to propose ways to prevent future cases of these conditions among clergy.

Based on the application of effort-reward imbalance theory to the clergy vocation, we hypothesized that overall rates of depression and anxiety among clergy would be high. We also hypothesized that these conditions would relate to high levels of extrinsic demands, specifically, job stress in the form of demandingness and negative interactions, life unpredictability, and social isolation. We hypothesized that anxiety and depression would also relate to high levels of intrinsic demands, namely, feeling guilty about not doing enough for one's congregation and doubting one's call to ministry while remaining in a ministerial role. In addition, we hypothesized that low rewards would relate to anxiety and depression. For clergy, we hypothesized these rewards to be satisfaction with ministry, lack of financial stress, and higher perceived control over one's next church appointment (a form of status control).

Methods

Using the UMC conference directories, we obtained names of UMC clergy in the NC and Western NC Annual Conferences in 2008 and offered study participation to all of their currently-serving

clergy (n = 1,820). This survey included the district superintendents, deacons, and all full- and part-time pastors and extension ministers. A second wave of the survey was administered in 2010 to all participants from 2008, plus new clergy (n = 2,009).

We contracted with the research organization Westat to collect data between July and November 2008, and between August and October 2010. In order to consider mode effects, Westat randomized clergy in advance to telephone (33 %) or web (67 %) conditions for the 2008 survey. There was no telephone component to the 2010 survey. A prepaid incentive of $25 was sent to all eligible clergy during each survey wave. The overall study response rate for 2008 was 95 % (n = 1,726). For the 2008 survey, telephone interviews accounted for 38 %, web surveys 58 %, and paper surveys 4 %. We used each mode subsample in different analyses, described below. For 2010, we had a response rate of 87 % (n = 1,754). Surveys completed online constituted 95 % of all surveys, and 5 % were completed by paper. We restricted the 2010 analyses to clergy still serving in the ministry in order to be comparable to the 2008 data. All procedures were approved by the Duke University and Westat Institutional Review Boards.

This study primarily relies on the 2008 data for several reasons. Only one wave of data was necessary to test effort-reward imbalance theory, and we preferred the 2008 data because it had the higher response rate (95 vs. 87 %). We used the 2010 data to test for changes in depression and anxiety rates across time; no significant differences were found. The regression estimates were also similar for 2008 versus 2010 data, giving us confidence that selecting either wave of data would yield the same results.

Measures

Outcome Variables

Depression was measured using the Patient Health Questionnaire (PHQ–9) (Spitzer, Kroenke, Williams, & The Patient Health Questionnaire Primary Care Study Group, 1999), which consists of nine items on the frequency of depression symptoms during the past 2 weeks. Example items include: ‘‘Over the last 2 weeks, how often have you been bothered by…’’ ‘‘little interest or pleasure in doing things’’ and ‘‘feeling tired or having little energy.’’ Depression severity scores range from 0 to 27. Based on previous validation studies (Kroenke, Spitzer, & Williams, 2001; Spitzer et al., 1999), depression was defined as a score of 10 or higher (Kroenke et al., 2001; Spitzer et al., 1999). Anxiety was measured using the anxiety portion of the Hospital Anxiety and Depression Scale-Anxiety (HADS-A; Zigmond & Snaith, 1983). Examples of items include, ‘‘Over the past 2 weeks, how often have you been bothered by any of the following problems?’’ ‘‘I feel tense or ‘wound up’’’ and ‘‘I feel restless as if I have to be on the move.’’ The HADS-A has seven items, each of which was measured using a four-point ranking for a total scale range of 0–28. As recommended by Bjelland, Dahl, Haug, and Neckelmann (2002), we considered scores of 8 and higher to indicate cases of anxiety.

Extrinsic Demands Variables

Job stress was measured using the five-item Clergy Occupational Distress Inventory (Frenk, Mustillo, Hooten, & Meador, 2011). Example items include: ‘‘During the past year, how often have the people in your congregation…’’ ‘‘made too many demands on you?’’, and ‘‘been critical of you and the things you have done?’’ (a = .81). Life unpredictability was measured using the six-item Life Chaos Scale, which reflects instability, organization, and the ability to anticipate and plan for the future, and includes items such as, ‘‘My daily activities from week to week are unpredictable’’ (a = .72) (Wong, Sakisian, Davis, Kinsler, & Cunningham, 2006). Social isolation was measured using the item, ‘‘How socially isolated do you feel?’’

Intrinsic Demands Variables

Guilty about work was measured by the item, ‘‘Over the past year, how guilty have you felt about not doing enough in your role as clergy?’’ Doubting call was measured by taking the mean of three items from the Pulpit and Pew study (Carroll, 2006): ‘‘How often have you doubted that you are called by God to the ministry?’’, and ‘‘How often have you thought of leaving pastoral ministry…’’ ‘‘in a congregation to enter another type of ministry position?’’, and ‘‘to enter a secular occupation?’’ (∞ = .70).

Rewards Variables

Ministry satisfaction was measured using the mean of 12 items from the Pulpit and Pew study that reflect participants’ level of satisfaction with their effectiveness as a pastor, relationships with clergy and congregation, family life, and spiritual life (e.g., ‘‘What is your level of satisfaction with your overall effectiveness as a pastoral leader in this particular congregation?’’ [a = .85]) (Carroll, 2006). Financial stress was measured by: ‘‘How stressful is your current financial situation for you?’’ Status control-next appointment was measured by taking the mean of three items (a = .88) that we developed with several clergy researchers who understand the UMC appointment system. These items were: ‘‘For your next appointment to a charge, how much importance do you think will be given to…’’ ‘‘your particular gifts and calling for ministry?’’, ‘‘your previous experience?’’, and ‘‘your match with the congregation?’’ Higher scores on these measures reflect more job stress, greater life unpredictability, more social isolation, greater guilt about work, more doubts about one’s call, greater ministry satisfaction, more financial stress, and more perceived control over one’s next appointment.

Control Variables

We included as control variables gender, race, and age because they have been shown to relate to depression and anxiety (Andrade et al., 2003; Kessler et al., 2003; National Center for Health Statistics, 2012). We included number of years in ministry because we hypothesized that this construct would be directly related to anxiety and depression due to more years of exposure to extrinsic and intrinsic demands. For the same reason, we included hours worked per week, in which participants could enter their best estimate of the number of hours worked in ministry in a typical week.

We included variables indicating clergy role, because different clergy positions have different rewards and demands. Specifically, we included the variable Other to contrast clergy working in a church to those with other responsibilities; the variable District superintendent to contrast clergy in an administrative, supervisory role over church-serving clergy to all other clergy; and the variable Deacon to contrast deacons to all other clergy. Deacons are ordained clergy who do not serve as pastors in charge of congregations, but work to connect worship with service to God in the world. In addition, in the UM system, clergy can be ''elders'' who hold a master's in divinity degree and who are ordained and guaranteed a UM appointment, or they can be ''local pastors'' who have less theological education and are not guaranteed a UM appointment. Because previous research on UM clergy has indicated differences between elder and local pastors in stress, salary, social support, church conflict, and feelings of isolation in their work (Miles & Proeschold-Bell, 2012), we included the variable Local to contrast local pastors to all other clergy.

Statistical Analyses

We calculated the prevalence rates of past 2-week anxiety and depression for: our full sample, aged 23–90; for clergy aged 40–60, which comprises the bulk (65 %) of our full sample; and women and men of all ages. Because interview versus self-administered mode effects have been documented in the literature (Bowling, 2005), we tested for these effects. There was a trend toward significant mode effects, with lower rates of depression reported for the telephone interview sample (8.67 %) compared to the selfadministered sample (11.06 %) ($v2 = 2.52$, $p = .11$). To be conservative, we limited the comparison between the PHQ-9 items in the national versus clergy sample to our telephone interview sample.

We tested whether proportions of depression observed in our clergy data significantly differed from the corresponding proportions reported in the 2005-2006 National Health and Nutrition Examination Survey (NHANES), a continuous, cross-sectional US household interview and physical exam (Pratt & Brody, 2008). The PHQ-9 depression items were asked in private in the NHANES' mobile examination center. Data were weighted based on probabilities of selection, non-response, and non-coverage in order to be optimally representative of the US population. NHANES data were limited to ages 18_{+}, and depression proportions and standard errors estimated using sample weights were calculated in SUDAAN 10.0 (SUDAAN, 2008). We then conducted proportion difference tests with the clergy data, using only the telephone interview data to be most similar to the in-person NHANES mode of data collection. The same PHQ-9 cut-off score of 10 was used in both samples. Unfortunately, we were not able to locate a comparative US sample that reported the prevalence of anxiety using the HADS.

To examine the effort-reward imbalance theory and control variables in terms of clergy depression and anxiety, we first conducted bivariate analyses using logistic regression. These provided baseline descriptive information and revealed unadjusted trends in the data. We then used multivariate logistic regression to simultaneously examine the relationships among the predictor, control, and outcome variables. Listwise deletion of cases with missing data on model

variables left a sample size of 774. Logistic regression models used a cluster-robust standard to correct for the correlations introduced by clergy who served in the same churches; for example, a head and associate pastor may both have reported on the degree of stress they experienced because of the challenges they face with their congregation. We standardized all continuous predictors prior to multivariate analyses to allow readers to compare the size of odds ratios within models. We conducted all analyses of the UMC survey data using R version 2.12.2 (R Development Core Team, 2011).

Results

The 2008 survey yielded a response rate of 95 %. Participants were predominantly White (90.9 %), male (74.7 %), currently married (86.7 %), and insured (99.1 %). Their mean age was 52.3 years and 71.1 % had a master's or doctoral degree. As shown in Table 1, the 2008 past 2-week anxiety prevalence and depression rates were 13.5 and 11.1 %, respectively. To examine whether an environmental influence may have temporarily affected the 2008 prevalence rates, we tested for differences between the 2008 and 2010 data for anxiety (difference = 0.1 %; 95 % CI = -2.7, 2.6 %) and depression (difference = 0.6 %; 95 % CI = -1.9, 3.1 %). We did not find any statistically significant differences. The comorbidity rate of anxiety and depression was 7.4 %.

Table 1 Percentages of participants qualifying for anxiety or depression

Disorder	**Prevalence (%)**	***n***
Anxiety[a]		
Full sample	13.5	1,07
Age 40-60	14.1	687
Males	12.6	820
Females	16.7	251

Disorder	Prevalence (%)	*n*
Depression[b]		
Full sample	11.1	1067
Age 40-60	12.0	685
Males	9.8	815
Females	15.1	252

Note Data from 2008 using self-administered survey data only to eliminate telephone mode bias

[a] The Hospital Anxiety and Depression Scale-Anxiety (HADS-A; Zigmond & Snaith, 1983) was used to measure anxiety, which is defined as a score of 8 or higher.
[b] The Patient Health Questionnaire (PHQ-9; Spitzer et al., 1999) was used to measure depression, which is defined as a score of 10 or higher.

Prevalence of Depression Compared to a National Sample

Table 2 reports data comparing the clergy telephone subsample in 2008 to NHANES national in-person interview data in 2005–2006. Rates of depression among clergy were significantly higher for the clergy sample, which exhibited a depression rate 2.89 percentage points higher than the representative sample of US residents.

Baseline Probabilities of Depression and Anxiety

Table 3 presents predicted probabilities of anxiety and depression from bivariate logistic regression models. For continuous variables, probabilities are presented at the mean, and one standard deviation above and below the mean. These points were chosen to facilitate comparison to the multivariate models presented in the next section, in which all continuous variables were standardized prior to analysis. The Chi square statistics presented constitute the differences in the -2*loglikelihoods from each bivariate model and its corresponding intercept-only model.

Several demographic variables were significantly associated with anxiety or depression in bivariate analyses. Higher age was significantly associated with lower depression and anxiety, and females exhibited higher anxiety and depression than males. Higher scores on the extrinsic demands variables of job stress, life unpredictability, and social isolation were significantly associated with both anxiety and depression, as were higher scores on the intrinsic demands variables of feeling guilty about not doing enough work and doubting one's call to ministry. Higher scores on financial stress were also associated with depression and anxiety; conversely, the effort-reward imbalance theory construct of lack of financial stress was related to lower anxiety and depression. The other two reward variables, greater ministry satisfaction and greater status control, were significantly associated with anxiety and depression.

Multivariate Analyses

In multivariate analyses (see Table 4), the extrinsic demands of job stress and life unpredictability, as well as the intrinsic demands of feeling guilty and doubting one's call, were significantly related to higher odds of anxiety and depression. Specifically, job stress was associated with significantly higher odds of being anxious (OR = 1.75, CI = 1.32, 2.32) and also depressed (OR = 1.74, CI = 1.21, 2.50). Life unpredictability was associated with significantly higher odds of being anxious (OR = 1.38, CI = 1.06, 1.81) and depressed (OR = 1.54, CI = 1.13, 2.08). Doubting one's call was associated with significantly higher odds of being anxious (OR = 1.61, CI = 1.22, 2.11) and also depressed (OR = 1.42, CI = 1.06, 1.89). Interestingly, social isolation was not significantly related to anxiety, but was associated with significantly higher odds of being depressed (OR = 1.50, CI = 1.12, 2.01).

In terms of rewards, ministerial satisfaction was related to significantly decreased odds of being anxious (OR = 0.57, CI = 0.44, 0.74) or depressed (OR = 0.52, CI = 0.36, 0.74). Greater financial stress was significantly associated with higher odds of being depressed (OR = 1.58, CI = 1.16, 2.15), but reached only borderline significance with anxiety (OR = 1.27, CI = 0.99, 1.63). Contrary to our hypothesis, status control was not significantly associated with either anxiety (OR = 1.23, CI = 0.92, 1.63) or depression (OR = 1.08, CI = 0.79, 1.48) in multivariate analyses.

Variable	**Clergy % (n)**	**NHANES % (n)**	**Difference (%)**	**95 % CI**
Combined sample	8.67 % (646)	5.52 % (4,177)	2.89	[.61, 5.17]
Age 40–60	9.68 % (434)	7.33 % (1,406)	2.35	[-1.52, 4.68]
Males	8.84 % (464)	4.38 % (2,331)	4.46	[-1.33, 4.10]
Females	8.24 % (182)	6.60 % (2,505)	1.64	[-2.01, 6.21]

Note The Patient Health Questionnaire (PHQ-9; Spitzer et al., 1999) was used to measure depression, which is defined as a score of 10 or higher. Data from 2008 clergy data using only the telephone interview data to make the mode of data collection more comparable to the in-person interviews used in the 2005–2006 NHANES (Centers for Disease Control and Prevention, 2013) CI confidence interval, NHANES National Health and Nutrition Examination Survey (Centers for Disease Control and Prevention, 2013).

Discussion

Rates of depression among clergy in this study were high (11.1 %), and significantly higher than among the US adult population, even when accounting for mode effects (8.7 vs. 5.5 %). The anxiety prevalence rate among clergy was 13.5 %. Rates of depression and anxiety among clergy were consistent between 2008 and 2010. These rates represent past 2-week depression and anxiety only; lifetime rates for clergy are likely much higher. This study adds to the evidence that serving in the ministry poses an occupational risk to mental health. While previous studies have indicated that clergy may experience high rates of anxiety and depression, the current study offers several methodological improvements, including high response rates and depression and anxiety measures with strong construct validity.

In addition, our study is the first of which we are aware to compare depression rates in clergy to those of a nationally representative sample using the same measure (the PHQ-9) in each sample. Clergy depression rates were higher than the national average, demonstrating a disparity in clergy mental health and indicating the need to attend to depression in this population. The depression rates in this study are lower than those found for the CES-D clergy studies (Knox et al., 2002, 2005; Proulx, 2008), possibly because the specificity rates for the PHQ-9 (Spitzer et al., 1999) are higher than those reported for the CES-D (c.f. Klinkman, Coyne, Gallo, & Schwenk, 1997). Also, our high response rates may account for the lower depression rate than other clergy studies, because more clergy in good health may have participated in our study. For these reasons, this study's results may provide a more accurate indication of clergy depression rates.

It would be helpful to compare the anxiety rates in our US clergy sample, 13.5 % in 2008 and 13.6 % in 2010, to the US anxiety prevalence rate. Unfortunately, we were unable to locate any US national studies that used the HADS-A scale in a healthy population. Beyond the US, Crawford, Henry, Crombie, and Taylor (2001) reported a past 2-week anxiety rate of 20.6 % for a nationally representative healthy population in the United Kingdom (UK) using the HADS-A. It thus appears that the clergy anxiety rate in this study is lower than the national anxiety rate in the UK in 2000. It is possible that gender explains the lower rate for clergy. Because females are underrepresented in our clergy sample (25.3 %), and yet in the general population are more likely to experience anxiety (Kessler et al., 2005), our clergy anxiety rate may be closer to the national average if adjusted for gender. On the other hand, our data may reflect a true lower rate of anxiety for clergy than the general population, as has been found by Musson (1998) for male clergy. Like Jones et al. (2004), we tested for, but did not find, statistically significant differences

in anxiety rates for male (12.6 %) versus female (16.7 %) clergy. Compared to other US clergy, the anxiety rates found in this study are lower than the 18 % state anxiety rate found for Catholic priests using the STAI (Knox et al., 2002). This could be due to instrumentation or response rate differences. The constructs representing extrinsic and intrinsic demands were highly predictive of both depression and anxiety among clergy. The extrinsic demands of job stress (negative interactions with congregants and too many demands from congregants) and life unpredictability significantly predicted both anxiety and depression, whereas social isolation predicted only depression. The intrinsic demands of feeling guilty about not doing enough for one's congregation and doubting one's call significantly predicted both anxiety and depression. The constructs representing rewards, as conceptualized by the theory, predicted anxiety and depression with mixed success. As hypothesized, ministry satisfaction was significantly related to lower levels of anxiety and depression, and financial stress significantly related to more depression, although not more anxiety. However, our measure of status control was not predictive insofar as feeling a sense of control over one's next church appointment was not related to anxiety or depression. This is a new measure that we developed; possibly it does not provide a true test of status control. Alternatively, it is possible that status control over one's next appointment is not universally important to clergy, because some clergy may pay more attention to their ultimate desire to live faithfully than to more secular demonstrations of success, such as choice church appointments. In other words, the sacred nature of their work may alter the salience of status control for clergy. On the one hand, viewing their work as sacred and critically important could heighten the salience of status control for clergy and cause them to greatly value the opinions of their clergy supervisors and invest heavily in their future in ministry. On the other hand, the very sacred nature of their work may remind clergy that it is more important to live out their calling as God sees it than it is to have control over a clergy system of church appointments that is human-directed. In addition, it is possible that UM clergy, who agree to work in the churches assigned to them by their denominational leaders, have lower expectations of controlling their status than do other clergy. Future research should seek to understand the meaning and degree of importance of status control to clergy and how to measure it.

Several of the relationships we found have been previously demonstrated, lending credibility to the data and suggesting key points of intervention. Financial stress has been found to relate to depression in both clergy (Blanton & Morris, 1999) and non-clergy studies (Peirce, Frone, Russell, & Cooper, 1994). Older age is related to lower rates of depression (Mirowsky & Ross, 1992; National Center for Health Statistics, 2012; Stordal et al., 2001). Doubting one's call to ministry has also been related to depression in Catholic priests (Knox et al., 2005), while ministry satisfaction has been found to relate to less anxiety in the same population (Knox et al., 2007). Further, our findings are consistent with research on clergy burnout that points to factors such as difficult parishioners (i.e., job stress), work overload, excessive schedule demands (including unpredictability), and low social support (Grosch & Olson, 2000).

Longer time in ministry was related to more depression and anxiety. With a mean of 17 years in ministry, our sample of clergy is experienced and has persisted in ministry; possibly this relation to more depression and anxiety can be explained by prolonged exposure to the stressful conditions mentioned above. The Transactional Model of Stress and Coping (Cohen, 1984; Glanz & Schwartz, 2008) posits that if many stressors are perceived to be uncontrollable or to extend beyond one's personal resources to address, then the appraisal of the situation leads to stress. The stressors depicted by effort-reward imbalance theory have, in turn, been found to relate to mental disorders including depression and anxiety (Siegrist, 1996). In addition, it is possible that more years of stressful pastoral experience create fear of the future, and thus more anxiety.

These findings suggest several policy interventions to promote the primary prevention of depression and anxiety in clergy. An advantage of using effort-reward imbalance theory is that it provides an analytical matrix that helps bring into focus the diverse stressors that clergy face, and highlights areas where interventions are most likely to gain traction. Denomination officials might focus on the extrinsic demands and the extent of support clergy have in the face of these congregational demands. Denomination officials may consider intervening with churches that are high in conflict and thus highly stressful to clergy, possibly by using interim, turn-around pastors. Officials may also decrease pastors' life unpredictability by developing back-up systems in which solo pastors can call on other clergy when needed, such as when they are on vacation. Officials might also take into account that these extrinsic pressures have intrinsic counterparts—for example, feeling guilty for not doing enough for their congregations. Officials could possibly counteract these feelings of guilt by helping clergy understand that many of their colleagues feel this way (i.e., normalizing), and help clergy instead align their values and priorities to replace thoughts of guilt with thoughts of actions they are taking and that will likely be beneficial. Equally helpful might be the distinction between effort and reward. Supervisors and denomination officials may not always be able to affect the extrinsic and intrinsic demands on clergy, but they are often in a position to balance these demands and to increase a pastor's sense of satisfaction by rewarding work well done even, and especially, when congregations themselves might not be doing so.

These findings may also be helpful to share with seminary students, in an effort to prevent depression and anxiety. For example, seminary students may benefit from being encouraged to establish social support early each time they move, realizing that it is not possible for even super-star clergy to meet all the demands on them, and recognizing that it is normal at times to doubt their call to ministry.

This study's strengths include being theory-driven, having a large sample and a very high response rate, and use of depression and anxiety measures with strong internal validity. However, our sample was limited to UM clergy in a single US state. While we must be cautious in generalizing these findings to all clergy, studies have found that clergy engage in similar activities and experience similar job demands across denominations and countries (Carroll, 2006; Dewe, 1987; Frame & Shehan, 1994; Gleason, 1977; Kay, 2000; Kuhne & Donaldson, 1995; Noller,

1984). Nevertheless, within clergy, our sample of UM clergy was highly educated, with 71 % possessing a master's or doctoral degree, and so additional caution must be taken in generalizing these findings to clergy in denominations that require less education. For example, Jehovah's Witnesses, Mormons, and Calvary Chapel do not rely on seminary training (Finke & Dougherty, 2002), and in some studies, less than 40 % of Assemblies of God, Church of God, and Church of the Nazarene clergy hold a master's or doctoral degree (Perl & Chang, 2000). In contrast, Perl and Chang (2000) found that more than 80 % of American Baptist, Episcopal, Evangelical Lutheran, Presbyterian USA, Unitarian Universalist, United Church of Christ, and Disciples of Christ clergy hold a master's or doctoral degree, so this study's findings may be more generalizable to clergy of those denominations.

In addition, although multivariate analyses are useful in exploring relations between a variety of constructs and depression and anxiety, the cross-sectional nature of this study's data prohibit causal inferences. Several constructs (social isolation, financial stress) that related to depression could be markers, rather than causes, of depression. Longitudinal studies on clergy mental health are needed. Also, our measure of status control consisted of only three items and were answered by UM clergy who have less status control than clergy of other denominations because they are assigned to churches by the bishop. The usefulness of effort-reward imbalance theory demonstrated by this study indicates that additional work on measuring status control in clergy is warranted.

Despite these limitations, this study suggests an urgent need for policies and programs informed by effort-reward imbalance theory that will prevent clergy depression and anxiety and promote mental health.

Table 3 Demographic frequencies and predicted probabilities of anxiety and depression among clergy

Variables	Anxiety[a] % (*n*)	Depression[b] % (*n*)
Gender		
Male	14 % (83)	11 % (65)
Female	20 % (37)	17 % (31)
χ^2 (*df* = 1)	4.4*	5.8*
Race		
White	16 % (111)	12 % (83)
Black	8 % (4)	12 % (6)
Other	11 % (3)	11 % (3)
χ^2 (*df* = 2)	3.4	0.1
Ministerial position		
Other	18 % (97)	13 % (70)
District superintendent	23 % (3)	8 % (1)
Deacon	17 % (1)	17 % (1)
Local pastor	9 % (20)	9 % (20)
χ^2 (*df* = 3)	10.9*	3.1

	Predicted proportion	Predicted proportion
Age		
−1 *SD*	.19	.15
Mean	.15	.12
+1 *SD*	.12	.10
χ^2 (*df* = 1)	7.4**	5.3*
Time in ministry		
−1 *SD*	.13	.11
Mean	.15	.12
+1 *SD*	.17	.13
χ^2 (*df* = 1)	3.5†	0.5
Hours worked per week		
−1 *SD*	.09	.08
Mean	.14	.11
+1 *SD*	.21	.17
χ^2 (*df* = 1)	19.1***	12.6***
Job stress		
−1 *SD*	.04	.02
Mean	.11	.07
+1 *SD*	.27	.22
χ^2 (*df* = 1)	115.8***	118.5***
Life unpredictability		
−1 *SD*	.07	.04
Mean	.13	.09
+1 *SD*	.24	.21
χ^2 (*df* = 1)	50.7***	70.9***

Table 3 continued

	Predicted proportion	Predicted proportion
Social isolation		
-1 *SD*	.08	4 %
Mean	13 %	9 %
+1 *SD*	22 %	20 %
χ^2 (*df* = 1)	41.6***	70.9***
Guilty about work		
−1 *SD*	.07	.03
Mean	.13	.09
+1 *SD*	.24	.21
χ^2 (*df* = 1)	52.7***	83.3***
Doubting call		
−1 *SD*	.05	.04
Mean	.12	.09
+1 *SD*	.25	.20
χ^2 (*df* = 1)	90.9***	78.8***
Ministry satisfaction		
−1 *SD*	.26	.22
Mean	.12	.08
+1 *SD*	.05	.03
χ^2 (*df* = 1)	88.2***	103.2***
Financial stress		
−1 *SD*	.08	.04
Mean	.13	.10
+1 *SD*	.23	.20
χ^2 (*df* = 1)	42.0***	61.6***
Status control		
−1 *SD*	.19	.17
Mean	.15	.11
+1 *SD*	.11	.07
χ^2 (*df* = 1)	10.1**	19.7***

Note The x^2 tests indicate whether the variable is significantly related to depression or anxiety. The predicted proportions for the continuous variables all have n = 774

df degrees of freedom, SD standard deviation

p<.10, * p< \.05, ** p<\.01, *** p<\.001

[a] The Hospital Anxiety and Depression Scale-Anxiety (HADS-A; Zigmond & Snaith, 1983) was used to measure anxiety, which is defined as a score of 8 or higher.

[b] The Patient Health Questionnaire (PHQ-9; Spitzer et al., 1999) was used to measure depression, which is defined as a score of 10 or higher.

Table 4 Logistic regression models predicting depression and anxiety among clergy, with variables grouped by effort-reward imbalance theory categories

Category	Anxiety[a] Odds ratio (95 % CI)	Depression[b] Odds ratio (95 % CI)
Extrinsic demands		
Job stress	1.81 (1.34, 2.45)***	1.81 (1.23, 2.66)**
Life unpredictability	1.39 (1.06, 1.82)*	1.55 (1.14, 2.11)**
Social isolation	1.05 (0.80, 1.38)	1.52 (1.12, 2.05)**
Intrinsic demands		
Guilty about work	1.29 (1.02, 1.63)*	1.80 (1.38, 2.36)***
Doubting call	1.62 (1.23, 2.15)***	1.42 (1.06,1.91)*
Rewards		
Ministry satisfaction	0.58 (0.45, 0.74)***	0.52 (0.37, 0.75)***
Financial stress	1.27 (0.99, 1.63)[†]	1.57 (1.16, 2.14)**
Status control-next appointment	1.22 (0.92, 1.61)	1.08 (0.80, 1.46)
Control variables		
Age	0.63 (0.47, 0.85)**	0.67 (0.44, 1.00)*
Time in ministry	2.07 (1.39, 3.98)***	2.13 (1.29, 3.53)**
Female	1.85 (1.09, 3.14)*	2.07 (1.08, 3.97)*
Black	0.23 (0.10, 0.49)***	0.69 (0.15, 3.14)
Other race	1.29 (0.34, 4.86)	3.18 (0.72, 13.95)
District superintendent	1.76 (0.96, 3.22)[†]	0.47 (0.17, 1.25)
Deacon	0.34 (0.08, 1.45)	0.46 (0.11, 1.94)
Local pastor	1.58 (0.82, 3.05)	3.04 (1.37, 6.74)**
Hours worked	1.11 (0.82, 1.50)	1.11 (0.75, 1.65)

Note N = 773. Data from 2008 using all response modes (telephone interviews, web surveys, and paper surveys) and employing listwise deletion. Coefficients are standardized for continuous variables, for comparability across variables within the same outcome

p<.10, * p< \.05, ** p<\.01, *** p<\.001

[a] The Hospital Anxiety and Depression Scale-Anxiety (HADS-A; Zigmond & Snaith, 1983) was used to measure anxiety, which is defined as a score of 8 or higher

[b] The Patient Health Questionnaire (PHQ-9; Spitzer et al., 1999) was used to measure depression, which is defined as a score of 10 or higher

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