

Practicing What They Preach? Physical Activity Promotion among Clergy

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Abstract A key public health goal in the U.S. is to increase the number of people that engage in regular physical activity. Faith-based organizations are prominent in many communities, making them a viable partner in pursuit of this goal. As leaders of FBOs, clergy are uniquely positioned to promote physical activity to a large segment of the U.S. population. The purpose of this study was to examine factors associated with physical activity promotion among clergy. A convenience sample of clergy (N = 497) from the largest denominations in Pennsylvania completed web-based questionnaires about their physical activity promotion practices. Multiple logistic regression was used to calculate odds ratios of clergy promoting physical activity. Forty-five percent of clergy reported that they had promoted physical activity to their congregation during sermons and 14% reported promoting physical activity during one-on-one counseling. Notable findings were that clergy who were female, reported fewer chronic diseases, had more health-related education, and were meeting physical activity recommendations were more likely to promote physical activity. The results of this study indicate that gender, health status, health-related education, and engaging in regular physical activity may be important influences on whether clergy promote physical activity to their congregations. More research is needed to better understand additional characteristics of clergy who engage in physical activity promotion, as well as whether changes in physical activity behavior would lead to changes in physical activity promotion practices among clergy.

Keywords: *physical activity, health, faith-based, clergy, counseling*

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1. Introduction

There is overwhelming evidence that participating in regular physical activity (PA) reduces the risk for many chronic diseases and reduces mortality rates associated with cardiovascular disease, diabetes, and some cancers [1]. According to the Centers for Disease Control and Prevention (CDC) [2], 51% of adults report meeting the current recommendations for aerobic PA, with 26% reporting no leisure-time PA at all. Estimates of self-reported PA are likely inflated considering objective measures of PA participation put the percentage of U.S. adults that adhere to the current recommendations closer to 10% [3]. Accordingly, the promotion of PA remains one of the primary public health goals of the U.S. government [4]. In line with this goal, the National Physical Activity Plan Alliance [5] has included partnering with community-based organizations as one of their recommended strategies for promoting PA participation.

According to survey data from the Pew Research Center [6], over 75% of Americans claim a religious affiliation, with 36% reporting that they attend worship services at least once a week. Based on current data from

the U.S. Census Bureau [7] that is the equivalent of approximately 116-million people having contact with FBOs each week. Even if estimates of worship attendance are inflated, as some have suggested [8], the expansive platform offered by faith-based organizations (FBOs) for promoting PA has led to much speculation about the public health impact that could be realized if efforts to partner with FBOs are successful. As their administrative and spiritual leaders, clergy are positioned to be a chief ally in efforts to promote PA through FBOs.

Many Americans feel that FBOs could meet various needs within the community, one of which is by providing counseling services [9]. In fact, much of the faith-based health promotion research has focused on the role of clergy in providing counseling services on a myriad of issues, most notably those related to mental health [10,11,12,13]. In general, clergy feel they are underprepared to provide counseling for mental health problems [9,14,15], however clergy who have received education related to mental health issues report feeling more confident providing this type of counseling [13,16].

With few exceptions, substantially less attention has been focused on the physical health counseling practices of clergy. According to one study, clergy reporting more comfort in providing health counseling and who had more positive perceptions of their own health were more likely

to engage in health counseling in their FBOs [17]. Evidence also indicates that clergy with more positive health and behaviors are more likely to engage in health promotion in FBOs [18,19]. These findings are promising, but it is unknown if the health and behaviors of clergy influence whether they promote specific domains of health behavior such as PA.

In the present study, we collected data on the PA promotion practices of clergy from the largest denominations in Pennsylvania. We sought to determine whether health status, having received health-related education, and PA behavior were associated with PA promotion practices among clergy. Based on the research literature regarding health promotion among clergy, we expected that clergy who had more positive health, had received health-related education, and who met current recommendations for PA [20] would be more likely to promote PA during their sermons and during one-on-one counseling.

2. Method

2.1. Participants

A full description of the sample is in Table 1. A convenience sample of 497 professional clergy from the seven largest Christian denominations in Pennsylvania, as indicated by the Association of Statisticians of American Religious Bodies [21], participated in the study. Characteristics of the clergy were: mean age of 53.7 years ($SD = 10.7$), 66% male, 97% white, and 91% held a Master's degree or higher. Nearly half (47%) of the clergy were classified as obese, had an average of 1.66 chronic diseases ($SD = 1.59$), and 45% rated their health as very good/excellent. Thirty-five percent of the clergy reported having received some education related to health. Fifty-nine percent of the participants reported meeting current PA recommendations. This study was approved by the Institutional Review Board at Pennsylvania State University.

Table 1. Characteristics of the Sample (N=497)

Variable	<i>n</i>	%	<i>M</i>	<i>SD</i>
Age			53.7	10.7
Male	329	66.2		
White/non-Hispanic	482	97.0		
Master's degree or higher	451	90.7		
Obese (BMI \geq 30.0)	212	42.7		
Number of chronic health conditions			1.66	1.59
Reporting very good/excellent health	225	45.3		
Received health-related education	172	34.6		
Meeting PA recommendations	294	59.2		
Denominational Affiliation				
United Methodist	203	40.8		
Evangelical Lutheran	113	22.7		
United Church of Christ	84	16.9		
Presbyterian	49	9.9		
Roman Catholic	23	4.6		
American Baptist	13	2.6		
Episcopal	12	2.4		

Note: BMI = Body Mass Index; PA = physical activity.

2.2. Measures

2.2.1. Demographics

Clergy were asked to report their age in years, gender (0 = male, 1 = female), race (not included in the analyses), highest education level attained (not included in the analyses), and whether they had received any health-related education (0 = no, 1 = yes).

2.2.2. Health-Related

Clergy were asked to report their current weight (pounds) and height (inches). Body Mass Index (BMI) was calculated using the standard equation (weight (pounds) / [height (inches)]² x 703), with a BMI \geq 30.0 being classified as obese. For the purpose of analysis, weight status was dichotomized as 0 = not obese and 1 = obese. Clergy also indicated the number of chronic diseases or conditions they had been diagnosed with or were being treated for from a list of options. They then rated their current health status on a 5-point Likert-type scale ranging from 1 = poor to 5 = excellent. For the purpose of analysis, perceived health status was dichotomized as 0 = poor/fair/good and 1 = very good/excellent.

2.2.3. Physical Activity Behavior

Participation in moderate and vigorous aerobic PA was quantified using the PA module of the Behavioral Risk Factor Surveillance System [22]. The module asks respondents to report the volume (frequency and minutes) of moderate and vigorous aerobic PA they participate in per week. Total minutes per week spent in moderate PA and vigorous PA was calculated and used to determine if participants were meeting the current recommendations for PA participation [20]. For the purpose of analysis, PA was dichotomized as 0 = not meeting recommendations and 1 = meeting recommendations.

2.2.4. Physical Activity Promotion

Clergy were asked to report the frequency that they spoke about PA to their entire congregation during sermons using a 5-point Likert-type scale ranging from 1 = Never to 5 = Very Often. Participants were also asked to report the frequency that they spoke with congregants about PA in one-on-one counseling sessions using a 5-point Likert-type scale ranging from 1 = Never to 5 = Very Often. For the purposes of analysis, the responses to both items were dichotomized as 0 = never/rarely and 1 = sometimes/often/very often.

2.3. Procedures

2.3.1. Recruitment

Email addresses ($n = 3,667$) for clergy employed by the top seven denominations in Pennsylvania were retrieved from the directories on the denomination websites. Although a random sampling method would have been preferable, it is unknown if all clergy members make their contact information available on their denominations website, thus we must define this as a convenience sample. Clergy with contact information were contacted via email inviting them to complete a web-based survey. Clergy

provided electronic informed consent prior to completing the web-based survey.

2.3.2. Statistical Analysis

All analyses were run using IBM SPSS Statistics Software (Version 22.0). Descriptive statistics were calculated for all study variables. Linear regression models were used to test for evidence of multicollinearity between the health- and behavior-related variables, with PA counseling during sermons as the dependent variable in one model and PA counseling as the dependent variable in the second model. Multiple logistic regression was used to calculate the likelihood that a clergy member would report promoting PA during sermons and one-on-one counseling, adjusting for age, gender, weight status, number of chronic diseases, self-reported health status, health-related education, and PA behavior. Associations are reported using odds ratios with 95% confidence intervals. Significance for all analyses was set at $p < .05$.

3. Results

3.1. Response Rate

A total of 532 surveys were initiated. Review of the survey responses revealed that 35 surveys were less than 10% complete, so these surveys were excluded from the analysis. Data imputation was not necessary as the remaining surveys were $\geq 90\%$ complete, with all incomplete surveys being the result of the respondent not clicking the "Submit" icon on the final screen. A final sample of 497 clergy was obtained, for a response rate of 14%.

3.2. Multicollinearity Diagnostics

Both linear regression models revealed weak evidence for multicollinearity between the health- and behavior-related variables (i.e., all Tolerance values were $\geq .90$ and all Variance Inflation Factors were ≤ 1.16). This indicates that none of the variables needed to be excluded from the logistic regression models.

3.3. Physical Activity Promotion during Sermons

Results of this logistic regression analysis are in [Table 2](#). A multivariate logistic regression revealed that clergy who were classified as obese (OR = 1.64, 95% CI [1.08, 2.50]), reported being in very good/excellent health (OR = 1.54, 95% CI [1.01, 2.36]), had received some health-related education (OR = 1.57, 95% CI [1.05, 2.33]), and who were meeting PA recommendations (OR = 2.61, 95% CI [1.73, 3.93]) were more likely to promote PA during sermons. However, clergy who were male (OR = 0.58, 95% CI [0.39, 0.88]) and who reported more chronic diseases were less likely to promote PA during sermons (OR = 0.78, 95% CI [0.68, 0.91]).

These results partially support our hypotheses in that clergy who reported fewer chronic diseases, had more positive perceptions of their health status, received health-

related education, and met current PA recommendations were more likely to promote PA during sermons. In contrast to our alternate hypothesis, clergy classified as obese were more likely to promote PA during sermons.

Table 2. Likelihood of Promoting Physical Activity during Sermons.

Variable	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Age	0.99 (0.97 – 1.01)	1.02 (1.00 – 1.04)
White, non-Hispanic	0.40 (0.13 – 1.19)	0.37 (0.12 – 1.16)
Male	0.80 (0.55 – 1.16)	0.58 (0.39 – 0.88)
Master's degree or higher	1.45 (0.77 – 2.71)	1.04 (0.54 – 2.04)
Obese (BMI ≥ 30.0)	0.95 (0.66 – 1.36)	1.64 (1.08 – 2.50)
Number of chronic health conditions	0.81 (0.72 – 0.91)	0.79 (0.68 – 0.91)
Reporting very good/excellent health	1.91 (1.33 – 2.73)	1.54 (1.01 – 2.36)
Received health education	1.56 (1.08 – 2.27)	1.59 (1.07 – 2.36)
Meeting PA recommendations	2.59 (1.78 – 3.77)	2.68 (1.78 – 4.02)

Note: OR = odds ratio; CI = confidence interval; PA = physical activity.

3.4. Physical Activity Promotion during One-on-One Counseling

Results of this statistical analysis are in [Table 3](#). A multivariate logistic regression revealed that clergy who were male (OR = 0.49, 95% CI [0.28, 0.85]) and who reported more chronic diseases (OR = 0.74, 95% CI [0.59, 0.93]) were less likely to promote PA during one-on-one counseling.

These results partially supported our hypothesis in that clergy with fewer chronic diseases were more likely to promote PA during one-on-one counseling. However, our hypotheses that obese weight status, perceived health status, receiving health-related education, and meeting PA recommendations would significantly affect the likelihood that clergy would promote PA during one-on-one counseling was not supported.

Table 3. Likelihood of promoting physical activity during one-on-one counseling

Variable	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Age	1.00 (0.99 – 1.02)	1.01 (0.98 – 1.03)
White, non-Hispanic	0.64 (0.17 – 2.31)	0.67 (0.17 – 2.55)
Male	0.62 (0.37 – 1.04)	0.49 (0.28 – 0.85)
Master's degree or higher	2.46 (0.74 – 8.15)	1.77 (0.51 – 6.10)
Obese (BMI ≥ 30.0)	0.79 (0.47 – 1.33)	1.20 (0.67 – 2.14)
Number of chronic health conditions	0.73 (0.59 – 0.89)	0.74 (0.59 – 0.93)
Reporting very good/excellent health	1.94 (1.16 – 3.26)	1.54 (0.85 – 2.77)
Received health education	1.66 (0.99 – 2.78)	1.65 (0.97 – 2.81)
Meeting PA recommendations	1.83 (1.05 – 3.19)	1.70 (0.94 – 3.07)

Note: OR = odds ratio; CI = confidence interval; BMI = Body Mass Index; PA = physical activity

4. Discussion

The primary purpose of this study was to identify factors that may influence PA promotion practices in FBOs among a sample of professional clergy. Our first

hypothesis was that health-related variables (weight status, number of chronic diseases, and perceived health status), having received health-related education, and meeting PA recommendations would significantly affect the likelihood that clergy would promote PA during sermons. This hypothesis was strongly supported in regards to receiving health-related education and meeting PA recommendations, but results related to health-related variables were mixed. Our second hypothesis was that the health-related variables, having received health-related education, and meeting PA recommendations would also significantly affect the likelihood that clergy would promote PA during one-on-one counseling. Except for one health-related variable (number of chronic diseases), this hypothesis was mostly not supported. An unexpected but potentially important finding in our study was that male clergy were less likely to report promoting PA during sermons and one-on-one counseling.

Overall, several of our findings were consistent with prior research. First, clergy who reported fewer chronic diseases, perceived their health status as more positive, and who met PA recommendations were more likely to promote PA during sermons. This finding is consistent with previous research indicating that clergy with more positive health and behaviors are more likely to offer health programs in their FBO [18]. Second, clergy who reported receiving health-related education were more likely to promote PA during sermons. This is consistent with previous findings that clergy who have received education related to mental health issues feel more confident in providing counseling for mental health issues [13,16]. The literature regarding PA counseling practices among physicians provides a potential parallel to our findings regarding PA: receiving health-related education [23,24] and PA behavior [23,24,25,26] have been identified as important influences on whether physicians counsel their patients on PA behavior. Also similar to our findings, female physicians are more likely to counsel their patients about exercise [27,28]. In our study, gender differences in PA promotion may be attributable in part to our finding (not reported) that female clergy were more likely to report meeting PA guidelines. In the general U.S. population females are less likely to meet PA recommendations [2], thus more research is needed to better understand gender differences in PA among clergy. As has been seen in physician-patient interactions regarding PA [29], congregants may be more likely to remember, share, and accept PA-related materials they encounter subsequent to receiving advice or encouragement from their clergy to become more active. Longitudinal studies using an experimental research design are needed to adequately assess whether improvements in clergy health, health-related knowledge, and PA behavior lead to increases in PA promotion in FBOs.

There were a few inconsistencies between our findings and those from previous research. For example, perceived health status did not significantly affect the likelihood that clergy would promote PA during one-on-one counseling. This contrasts other research indicating clergy with more positive perceptions of their health are more likely to counsel their congregants on health-related matters [17]. Also, clergy who were obese were more likely to promote

PA during sermons, whereas other research has found a negative association between clergy weight status and the provision of health programs in FBOs [18]. It is possible that clergy who were classified as obese felt compelled to discuss PA in the context of their own health struggles. It is also possible that some clergy classified as obese were in fact active and healthy in regards to cardiorespiratory and metabolic fitness, a state commonly referred to as the *obesity paradox* [30]. If this were the case then obese, but otherwise healthy clergy may be promoting PA for its health-promoting benefits regardless of their appearance or weight status. Also, the availability of existing resources and ability to mobilize these resources often factor into decisions on whether to offer health programs in FBOs [31], whereas the decision to promote PA during sermons and one-on-one counseling would not necessarily depend on the availability of resources within the FBO. Rather, it may be depend on the personal interests and perceived competence of the clergy, as well the perceived needs of the congregation. Future research should seek to identify additional factors (e.g., perceived competence and attitudes) that might influence whether clergy promote PA in FBOs.

Although our study identifies modifiable factors that may influence whether clergy promote PA in FBOs, there are some important limitations related to the interpretation of our results. First, this study used a cross-sectional design, which does not provide sufficient evidence to examine causal relationships between variables. Future studies would need to use a longitudinal design to determine whether changes in health, health-related knowledge, or PA behavior lead to increases in PA promotion among clergy. Also, although not uncommon for web-based survey research, the response rate to our questionnaires was low. Also, although our sample included a relatively large number of female clergy, it lacked diversity in regards to race, religious traditions, denominational affiliation, and geographic location. Our results may not generalize to clergy from different racial/ethnic, religious, or denominational backgrounds. It is also possible that the geographic location of the FBO (i.e., the community it serves) influences the content of health messages delivered by clergy, as well as whether clergy are more or less likely to meet PA guidelines. Finally, this study relied on self-report measures of health and PA behavior. Future research should consider the use of objective measures of these variables to reduce the risk of bias.

We provide important evidence regarding the potential influence of a clergy member's gender, health, education, and lifestyle on whether they engage in health promotion in FBOs. In particular, health-related education and participation in PA are modifiable factors associated with the likelihood that clergy promote PA in FBOs. Those interested in collaborating with FBOs and clergy to promote PA should consider these factors during the formative phase of an intervention. Researchers and practitioners might also consider developing programs with the specific aim of providing clergy with health-related education, as well as the skills to adopt a physically active lifestyle. This could lead to broad dissemination of public health messages regarding adopting and maintaining an active lifestyle.

References

- [1] Physical Activity Guidelines Advisory Committee, *Physical Activity Guidelines Advisory Committee Report, 2008*. 2008, US Department of Health and Human Services: Washington DC.
- [2] Centers for Disease Control and Prevention. *U.S. Physical Activity Statistics: 2015*. [online] 2017 [cited 2017 September 1]; Available from: <http://apps.nccd.cdc.gov/PASurveillance/StateSumResultV.asp?CI=&Year=2007&State=0#data>.
- [3] Tucker, J.M., G.J. Welk, and N.K. Beyler, Physical activity in US adults: compliance with the physical activity guidelines for Americans. *American Journal of Preventive Medicine*, 2011. 40(4): p. 454-461.
- [4] U.S. Department of Health and Human Services. *Healthy People 2020*. 2010 [cited 2017 September 1]; Available from: www.healthypeople.gov.
- [5] National Physical Activity Plan Alliance. *National Physical Activity Plan, 2010* [cited 2013 October 13]; Available from: <http://www.physicalactivityplan.org/NationalPhysicalActivityPlan.pdf>.
- [6] Pew Research Center. *U.S. Religious Landscape Study*. 2014 [cited 2017 September 1]; Available from: <http://www.pewforum.org/religious-landscape-study/>.
- [7] U.S. Census Bureau. *U.S. Census Bureau U.S.A. Quick Facts, 2016* [cited 2017 September 1]; Available from: <http://quickfacts.census.gov/qfd/>.
- [8] Hadaway, C.K. and P.L. Marler, How Many Americans Attend Worship Each Week? An Alternative Approach to Measurement. *Journal for the Scientific Study of Religion*, 2005. 44(3): p. 307-322.
- [9] Barna Group, *The State of Pastors: How Today's Faith Leaders are Navigating Life and Leadership in an Age of Complexity*. 2017, Ventura: Barna Group.
- [10] Bledsoe, T.S., et al., Addressing Pastoral Knowledge and Attitudes about Clergy/Mental Health Practitioner Collaboration. *Social Work & Christianity*, 2013. 40(1): p. 23-45.
- [11] Sullivan, S., et al., The Pew Versus the Couch: Relationship Between Mental Health and Faith Communities and Lessons Learned from a VA/Clergy Partnership Project. *Journal of Religion and Health*, 2014. 53(4): p. 1267-1282.
- [12] Oppenheimer, J.E., K.J. Flannelly, and A.J. Weaver, A Comparative Analysis of the Psychological Literature on Collaboration Between Clergy and Mental-Health Professionals-Perspectives from Secular and Religious Journals: 1970-1999. *Pastoral Psychology*, 2004. 53(2): p. 153-162.
- [13] Hedman, A.S., Perceptions of Depression, Counseling, and Referral Practices, and Self-Efficacy Reported by Minnesota Clergy. *Pastoral Psychology*, 2014. 63(3): p. 291-306.
- [14] Farrell, J.L. and D.A. Goebert, Collaboration Between Psychiatrists and Clergy in Recognizing and Treating Serious Mental Illness. *Psychiatric Services*, 2008. 59(4): p. 437-440.
- [15] Weaver, A.J., Has there been a Failure to Prepare and Support Parish-Based Clergy in their Role as Frontline Community Mental Health Workers: A Review. *Journal of Pastoral Care & Counseling*, 1995. 49(2): p. 129-147.
- [16] Pickard, J.G., Clergy Perceptions of Their Preparation for Counseling Older Adults. *Journal of Religion, Spirituality & Aging* 2012. 24(4): p. 276-288.
- [17] Fallon, E.A., M.J. Bopp, and B. Webb, Factors Associated with Faith-Based Health Counseling in the United States: Implications for Dissemination of Evidence-Based Behavioral Medicine. *Health and Social Care in the Community*, 2012. 21(2): p. 129-139.
- [18] Bopp, M. and E.A. Fallon, Individual and institutional influences on faith-based health and wellness programming. *Health Education Research*, 2011. 26(6): p. 1107-1119.
- [19] Bopp, M., et al., Leading their flocks to health? Clergy health and the role of clergy in faith-based health promotion interventions. *Family and Community Health* 2012. 36(3): p. 182-192.
- [20] Haskell, W.L., et al., Physical activity and public health: updated recommendation for adults from the American College of Sports Medicine and the American Heart Association. *Medicine and Science in Sports and Exercise*, 2007. 39(8): p. 1423-34.
- [21] Association of Statisticians of American Religious Bodies. *2010 U.S. Religion Census: Religious Congregations & Membership Study*. 2010 [cited 2015 October 21]; Available from: www.thearda.com.
- [22] Centers for Disease Control Prevention. *Behavioral Risk Factor Surveillance System*. 2010 [cited 2012 December 13]; Available from: <http://www.cdc.gov/brfss/>.
- [23] Abramson, S., et al., Personal exercise habits and counseling practices of primary care physicians: a national survey. *Clinical Journal of Sport Medicine*, 2000. 10(1): p. 40-48.
- [24] Frank, E., S.K. Bhat, and L. Elon, Exercise counseling and personal exercise habits of US women physicians. *Journal of the American Medical Women's Association* (1972), 2003. 58(3): p. 178-184.
- [25] Howe, M., et al., Patient-Related Diet and Exercise Counseling: Do Providers' Own Lifestyle Habits Matter? *Preventive Cardiology*, 2010. 13(4): p. 180-185.
- [26] Stanford, F.C., et al., Factors that influence physicians' and medical students' confidence in counseling patients about physical activity. *The Journal of Primary Prevention*, 2014. 35(3): p. 193-201.
- [27] Galuska, D.A., et al., Pediatrician Counseling About Preventive Health Topics: Results From the Physicians' Practices Survey, 1998-1999. *Pediatrics*, 2002. 109(5): p. e83-e83.
- [28] Adelman, R.D., et al., Older patient-physician discussions about exercise. *Journal of Aging and Physical Activity*, 2011. 19(3): p. 225-38.
- [29] Kreuter, M.W., S.G. Chheda, and F.C. Bull, How Does Physician Advice Influence Patient Behavior? Evidence for a Priming Effect. *Archives of Family Medicine*, 2000. 9: p. 426-433.
- [30] Lavie CJ, De Schutter A, Milani RV. Healthy obese versus unhealthy lean: the obesity paradox. *Nature Reviews Endocrinology*, 2015. 11(1): p.55-62.
- [31] Trinitapoli, J., C.G. Ellison, and J.D. Boardman, US religious congregations and the sponsorship of health-related programs. *Social Science & Medicine*, 2009. 68(12): p. 2231-2239.