An Examination of the Impact of the Texas Methodist Foundation Clergy Development Program

on the United Methodist Church in Texas

The Texas Methodist Foundation completed its first, two-year Clergy Development program in 2005 with 36 clergy from five of the annual conferences within the boundaries of Texas. By 2009, 173 clergy had completed or were in the process of completing its 2-year program. By 2009, there were reportedly over 3,000 clergy serving local churches within the state so those completing the TMF Clergy Development program represent quite a small percentage. Although their numbers are small at present, there are sufficient numbers to complete an initial investigation of the potential fruits from the program. Even though their numbers are small and there has been little time since the first group of participants completed the program, might there already be evidence that demonstrates positive benefits from the program? If there is positive evidence, can it be used to begin an effective strategy to reverse the decline in our denomination within the state of Texas?

The purpose of this investigation is to determine if there is any statistical evidence demonstrating that completion of the TMF's Clergy Development program has a positive impact upon either the individual clergy or the local churches these clergy serve. Some clergy who have completed the program have claimed that had they not participated in the program, they would have already left the ministry. It was the Clergy Development program that encouraged them to remain in effective ministry. Given these declarations, it is useful to examine the evidence to determine if participation affects the likelihood that a pastor would leave the pulpit in search of another career path.

Although the Clergy Initiate program is designed to provide support to the individual clergy, it seems that the indirect beneficiary of this clergy support is the local church. A more effective pastor should result in improved local church performance—perhaps in worship attendance, professions of faith, and member giving. It would therefore be useful to search for a possible relation between participation and measures of local church fruitfulness. Perhaps the Clergy Development program has had an impact upon the fruits of local churches. If so, there may have been sufficient numbers of participants and time to promote observable results.

What follows is a description of the methods of design, implementation, and results from a study of the potential effects of the Clergy Development program—both upon the individual clergy and upon the local churches they have served. It is an initial study because there has been little time thus far to observe the effects and there have been only 173 participants to date. The available evidence is limited. Many important questions cannot yet be addressed. Answers to these unanswered questions will have to wait for more accumulated evidence.

Research Design

The design for the research is relatively straightforward, but there are difficulties to confront. At the simplest level, one merely compares participating clergy with those who did not participate. If

participating clergy are either less likely to retire early or their churches report larger growth in average worship attendance than those churches served by non-participants, one would conclude that participation explains the differences. Unfortunately, it is not that simple.

The most difficult issue to confront is the issue of selection bias. An example is instructive. Reportedly, graduates from Harvard University have a greater income earning potential than graduates from other universities.[1] The standard conclusion from these reports is that Harvard University provides a better education than other universities. However, graduates from Harvard University were not randomly chosen from the total population of college-bound high school graduates . In fact, those entering Harvard University are believed to be quite gifted students. If the students entering Harvard are more gifted than those entering other universities, one cannot conclude that Harvard grants a better education than others simply on the basis of college graduate incomes. There is supposedly a study that followed students attending other universities but who had been accepted for admission to Harvard. The result of this study was that the incomes of Harvard graduates were no different than those who graduated from other universities but who had been accepted for admission from Harvard. The selection bias led to inappropriate conclusions. Harvard reportedly did not offer a better education, but Harvard was successful in selecting highly gifted students for admission.

How does that affect our inquiry? If TMF selects gifted clergy to participate in the Clergy Development one might inappropriately conclude that the Clergy Development produces good results when the results are actually due to an effective selection process whereby only gifted clergy were invited to participate.

To eliminate the possible effects of selection bias, one can examine the characteristics of participating clergy and match those characteristics among non-participants. Clergy who are very different than those who participated would not be included in any comparisons. This is not a perfect method, but it does correct for some of the potential selection bias that might be present. Because it is not a perfect comparison (such as comparing clergy who were invited but chose not to participate with those who did), one must be aware of potential selection bias affecting the reported results.

Clergy in our denomination are required to retire at the age of 72, but they may elect to retire early. Our examination focuses upon elected retirement—before the age of 72. Additionally, a significant number of clergy leave the ministry and are coded (by the General Board of Pensions and Health Benefits or GBOPHB) as separated but not retired. Between 2000 and 2010, almost six times as many clergy were coded as early separated than coded as early retired. The research design examines patterns of separation under both codes for clergy under the age of 72. The particular question raised is: Are participants of the TMF Clergy Development less likely to leave the pulpit before mandatory retirement than non-participants?

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[1] Stacy Dale and Alan B. Krueger, "Estimating the Payoff to Attending a More Selective College: an Application of Selection on Observables and Unobservables," *Quarterly Journal of Economics*, 117(4), November 2002, pp. 1491-1528.

There are several measures of local church fruitfulness, and the most frequently selected for study are average worship attendance, professions of faith, giving per attendee, and payment of apportionments. Unfortunately, our data do not include records of apportionment payments for sufficient numbers of years, and statistics on giving per attendee are too new. We do have available local church expenditures per attendee which serves as a substitute for giving per attendee. The question posed is: Do local churches served by participating clergy demonstrate greater fruitfulness than those served by non-participating clergy?

This particular question poses several challenges. To isolate the effects of the program, one can examine the fruitfulness of the local church before and after participation. For example, one can examine average worship attendance for a church served by Rev. Jones before participation and after participation. It would be necessary that Rev. Jones did not change appointments in midstream so that one is not comparing fruitfulness of a local church under two different pastors. Likewise, one should not compare the fruitfulness of two local churches both served by Dr. Jones—one before participation and one after participation. Accordingly, the research method focuses only on pastors who held the same appointment before and after participation.

Finally, there are influences upon measures of local church fruitfulness other than Clergy Development participation. To account for these other influences, the research method calls for a comparison between local churches served by participating clergy and local churches served by non-participating churches. Ratios of indicators, before and after, are constructed for both churches served by participating clergy and local churches served by non-participating churches. For example, average worship attendance after participation (say between 2006 and 2007) is divided by average worship attendance before participation (say between 2003 and 2004) for the church served by Rev. Jones. For comparison, the same ratio is constructed for the church served by Rev. Smith—a non-participant. If the Clergy Initiate program were effective, the growth in average worship attendance (expressed as a ratio between the two periods) for the church served by Rev. Jones would be greater than the growth for the church served by Rev. Smith—all else being equal.

Data

To conduct the statistical examination, one begins with the listing of clergy who completed the TMF Clergy Development program between 2005 and 2009. Again, this list includes 173 clergy from every annual conference in Texas. Next, one needs a status record for all clergy. These records come from the General Board of Pensions and Health Benefits, covering the period between 1984 and 2010. These records include each pastor's date of birth, gender, working status, and local church appointment (if any) as observed each year on December 31. Finally, local church end-of-year reports are available for every local church over the period under examination. These local church records end in 2009. It is through these records one finds average worship attendance, professions of faith, and total expenditures. Again, the payment of apportionments and member giving figures are not available over a sufficient period of time.

The GBOPHB does not keep records of clergy who did not participate in any of its pension plans. Accordingly, the data exclude records of many local part-time and full-time local pastors. However, it would be difficult if not impossible to identify comparable, non-participating clergy that properly match participating clergy from the pool of clergy who did not participating in any of the pension plans. The exclusion of these pastors does not seem to limit the examination in any material way.

Unfortunately, there have been too few participants to examine the importance of race and ethnicity of participants. The evidence thus far suggests that race and ethnicity are important, but there is only sufficient evidence to examine local churches with predominately white congregations. It will take more time to accumulate sufficient evidence to specifically examine local churches with predominately African-American , Asian, and Hispanic congregations.

Averages and Simple Comparisons

Without efforts to account for selection bias, results would likely be driven by factors other than participation. Initially, there were many clergy and local churches excluded from the analysis. Clergy who were retired over the complete 1984-2010 period were excluded. Clergy who died during the period were excluded. Local churches outside the state of Texas were excluded. Clergy who never participated in one of the pension plans were excluded. Clergy who never served in a pulpit between 1984 and 2009 were excluded. Clergy who were ever 72 years of age or older anytime during the period were excluded. For some examinations, clergy who changed churches during a specific period of time for an examination were excluded.

In what remains, there are at most 2,775 non-participant clergy used for comparison with the 173 participants. Sixty-nine percent of participants completed two years of gatherings. Another 17.7% completed 3 years of gatherings. Another 10% completed four years or more of gatherings. Only 3.2% of participants completed only one year of gatherings.

There are differences between local churches served by participants and local churches served by non-participants. In 2009, average worship attendance in local churches served by participates equal 560, compared to average worship attendance in local churches served by non-participants—318. Congregations served by participants were more likely to be predominately white (94.8%) compared to congregations served by non-participants (89.8%). Among local churches served by non-participants, 34.5% had associate pastors on staff, compared to 53.9% among local churches served by participants.

On the basis of available information, participants themselves are different in some respects than non-participants. Participants, on average, were younger (average age of 48.6) than non-participants (average age of 52.3). Participants were more likely to be male (76.9%) than non-participants (72.1%). Only 12.7% of participants remained in the same local church between 2000 and 2009, compared to 26.5% of the non-participants. The base salary of the clergy for participants was $65,794, compared to the base salary for non-participants at $46,655.

These differences introduce challenges into the examinations. Again, selection bias has the potential of influencing the analysis, resulting in potentially misleading conclusions. However, there are

methods of either eliminating or excluding selection bias from the analysis. One is never sure that the effects of selection bias have been identified and corrected, but the methods employed strongly suggest that the effects of selection bias are minimal at best.

Some of the participants of the Clergy Development program have stated that without the program, they would have discontinued their ministry as appointed clergy. This suggests that there may be evidence that participation extends the years of service in the pulpit. To find such evidence, there must be sufficient numbers of clergy who either elected early retirement or unexpectedly discontinued service to the local church. What follows is an examination of early retirements and an examination of early discontinuations. Each examination is presented in order.

Results: Early Retirements

Mandatory retirement for clergy is 72 years of age. For our purposes, an early retirement is a retirement that occurs before the mandatory age of retirement. Within the six annual conferences in the state, there were 188 early retirements between 1984 and 2010.[2] Eight of those early retirements were among Clergy Development participants after completion of the program.

The accepted method of examining retirement patterns is to estimate an equation that predicts, for each clergy, the probability of retiring early. The equation accounts for differences in age, gender, and compensation level. It also accounts for differences in appointment practices across the annual conferences. By recording which clergy participated in a Clergy Development program and which did not, it is possible to see if the probability of early retirement is affected by participation, all else being equal.

Table 1 presents the results of the examination of retirement patterns.

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[2] Recall, retirements among those who died during the time period were excluded from this count.

Table 1

Logit Regression Results

Clergy Retirement Patterns

```
Random-effects logistic regression              Number of obs      =      35264
Group variable: partnum                         Number of groups   =       3443

Random effects u_i ~ Gaussian                   Obs per group: min =          1
                                                               avg =       10.2
                                                               max =         27

                                                Wald chi2(9)       =    1215.94
Log likelihood  = -972.97144                    Prob > chi2        =     0.0000
```

ret_event	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
tmf_lim	2.873555	1.873496	1.53	0.125	-.7984292	6.54554
age	3.187018	.0937302	34.00	0.000	3.00331	3.370726
male	2.966595	.9783692	3.03	0.002	1.049027	4.884163
prev_comp	.0000792	9.60e-06	8.25	0.000	.0000604	.000098
tx	.3222958	2.451403	0.13	0.895	-4.482367	5.126958
ntx	-1.76145	2.554632	-0.69	0.491	-6.768436	3.245537
ctx	1.49508	2.500909	0.60	0.550	-3.406611	6.396771
swtx	-3.243054	2.548481	-1.27	0.203	-8.237985	1.751876
nwtx	1.702512	2.679446	0.64	0.525	-3.549107	6.95413
_cons	-217.1361	6.844053	-31.73	0.000	-230.5502	-203.722
/lnsig2u	4.822927	.0817802			4.662641	4.983214
sigma_u	11.15027	.4559356			10.29152	12.08067
rho	.974221	.0020539			.9698745	.9779547

```
Likelihood-ratio test of rho=0: chibar2(01) =  2036.76 Prob >= chibar2 = 0.000
```

The regression coefficients in the table tell most of the story. The variable, tmf_lim, registers the completion of a two-year Clergy Development program. Age registers the age of the clergy at the time of retirement, male indicates a male clergy, prev-comp registers the largest salary received prior to retirement (usually the salary the year before retirement), and age_male is an interaction term to be discussed later. There are a series of binary variables registering annual conference effects.

The important result in Table 1 for our purposes is the positive coefficient for tmf_lim. The coefficient is not statistically significant. We have not found any reliable relation between participation in the Clergy Development program and early retirement. Perhaps the history of the program is too short to have identified an effect. Nevertheless, one the basis of this investigation, one can draw no conclusion regarding the potential impact of participation and early retirement.

There are other findings of interest. The probability of early retirement increases with age. That is, early retirement is more likely among clergy approaching the mandatory retirement age. Additionally, male clergy are more likely to elect early retirement than female clergy, at all ages. The results failed to show that early retirement patterns differed across the annual conferences.

Results: Early Separation

For our purposes, early separation entails a non-retirement departure from the pulpit for several specific reasons. These include: discontinuation, no record of appointment, surrender credentials, terminated, and withdrawn. There are other separations from the pulpit which are not included, such as appointment to the cabinet, family leave, disability, honorable location, special appointment, sabbatical, and others. This designation of early separation is an attempt to identify involuntary departures from the pulpit.

As with early retirement, an equation is estimated from which the probability of early separation is predicted for every clergy member. Knowing which clergy participated in a Clergy Development program provides a basis for potentially observing an effect on early separation. The results of the regression analysis are presented below in Table 2.

Table 2

Logit Regression Results

Early Separation

```
Random-effects logistic regression          Number of obs     =      35264
Group variable: partnum                      Number of groups  =       3443

Random effects u_i ~ Gaussian                Obs per group: min =          1
                                                            avg =       10.2
                                                            max =         27

                                             Wald chi2(9)      =     167.15
Log likelihood  = -3223.0453                 Prob > chi2       =     0.0000


------------------------------------------------------------------------------
  dis_cont_2 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     tmf_lim | -1.328274   1.029298    -1.29   0.197    -3.345661    .6891124
         age |  -.022001   .0051947    -4.24   0.000    -.0321824   -.0118197
        male | -.4986102   .1287923    -3.87   0.000    -.7510384   -.2461821
   prev_comp | -.0000217   2.37e-06    -9.15   0.000    -.0000263    -.000017
          tx | -.8133511     .24029    -3.38   0.001    -1.284311   -.3423913
         ntx | -.6698589    .254562    -2.63   0.009    -1.168791   -.1709266
         ctx | -1.026612   .2609144    -3.93   0.000    -1.537995   -.5152294
        swtx | -1.078958   .2613633    -4.13   0.000     -1.59122   -.5666951
        nwtx |  -.434166   .2589718    -1.68   0.094    -.9417413    .0734094
       _cons | -1.803171   .3498899    -5.15   0.000    -2.488943    -1.1174
-------------+----------------------------------------------------------------
    /lnsig2u |  1.028347   .1421699                      .7496993    1.306995
-------------+----------------------------------------------------------------
     sigma_u |  1.672256   .1188722                      1.454773    1.922252
         rho |  .4594641   .0353089                      .3914674    .5290043
------------------------------------------------------------------------------
Likelihood-ratio test of rho=0: chibar2(01) =   103.58 Prob >= chibar2 = 0.000
```

Again, the coefficient of interest is the coefficient of tmf_lim. As with the early retirement equation, the coefficient of tmf_lim is not statistically significant. One cannot draw any conclusion from this evidence. One potential reason for the inability to obtain statistically significant results in the fact that after completion of a Clergy Development program, there is only one instance in which a participant was listed with a "No Record of Appointment" and that occurred for only 2010. This type of separation among participants is extremely rare.

It is somewhat helpful to casually examine the early discontinuation records of participants but before they began their Clergy Development program. There were sixteen clergy over 22 years who were temporarily separated from the pulpit before entering a Clergy Development program. This is a rate of about two clergy every three years. There have been 173 clergy who have completed the Clergy Development program, some of which by 2010, had competed the program five years earlier. There has been opportunity for each of the 173 participants to have experienced early separation post completion of the program. However, there is a record of only one early separation. The fact that there has been only one suggests that the program is effective in encouraging continued service to the local church through appointments, but the evidence is not sufficient to draw a strong conclusion.

Additional results are notable. Early separation is more likely among younger clergy and among female clergy. It is more likely among clergy with lower levels of compensation.   Early separations are most likely in the Rio Grande Annual Conference and least likely in the Southwest Texas and Central Texas Annual Conferences.

Results: Average Worship Attendance

Average worship attendance is one of the more important measures of local church fruitfulness used among church leaders. There are several known factors that affect average worship attendance which must be taken into account. A change in a senior pastor often changes worship attendance, either for the good or for the bad. Almost every church "inherits" its present worship attendance from the past. That is, worship attendance today is the best predictor of worship attendance for tomorrow. Changes in worship attendance tend to be small on a year to year basis. A significant change in worship attendance usually occurs only over several years. Since our purpose is to measure the effects of the Clergy Development program on worship attendance through the clergy, the methods of measurement of these effects are somewhat limited.

Since a pastoral change is known to have a significant impact on worship attendance, it is necessary to measure changes in worship attendance within a local church only when there is no pastoral change. It is difficult, if not impossible, to separate effects of a pastoral change from the effects of the Clergy Development. This restriction limits the examination since we can only include local church experiences with no pastoral change.

The fact that worship attendance moves slowly suggests that changes must be measured over several years rather than on a year-to-year basis. Using longer periods of time provides greater confidence in observing changes in worship attendance. Shorter periods of observation time can introduce the temporary effects of weather or events that could unknowingly affect the results. On the other hand, longer periods of observation reduce the number of churches included in the examination due to pastoral changes. As a balance, the present analysis is based upon changes in worship attendance between 2003 and 2009. Only those churches with no pastoral changes over this period are included.

To measure changes, worship attendance over two base years is compared to worship attendance over two future years. The base years chosen are 2003 and 2004. The future years chosen are 2008 and 2009. The quest is to explain differences in growth rates among local churches—from the 2003-2004 period to the 2008-2009 period. For each local church, the growth in attendance is measured as the average worship attendance in 2008 and 2009 divided by the average worship attendance in 2003 and 2004. Again, only churches with no pastoral change are included in the examination.

The examination of growth in average worship attendance requires multiple regression as the proper statistical tool. Table 3 presents the first set of results which includes pastors who completed TMF's Clergy Development in 2005.

Table 3

Growth in Average Worship Attendance

Clergy Development Class of 2005

```
      Source |       SS           df       MS              Number of obs =     236
-------------+------------------------------              F(  5,   230) =    4.34
       Model |  1.36465337      5  .272930673             Prob > F      =  0.0009
    Residual |  14.4676069    230  .062902639             R-squared     =  0.0862
-------------+------------------------------              Adj R-squared =  0.0663
       Total |  15.8322603    235   .06737132             Root MSE      =   .2508


------------------------------------------------------------------------------
   grow2_08_09 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0031474    .002199    -1.43   0.154    -.0074801    .0011853
        male |    .059842   .0397267     1.51   0.133    -.0184327    .1381167
         tmf |  -.0567526   .1142799    -0.50   0.620    -.2819219    .1684167
     pastcomp |  -1.75e-06   6.18e-07    -2.83   0.005    -2.96e-06   -5.29e-07
       pgmexp |   6.98e-07   1.74e-07     4.01   0.000     3.55e-07    1.04e-06
        _cons |   1.174094   .1386042     8.47   0.000     .9009979    1.447191
------------------------------------------------------------------------------
```

The regression coefficient of interest is the tmf coefficient which registers a clergy who completed a Clergy Development program in 2005. The regression includes only churches with predominately white congregations because there were too few predominately African-American, Asian, or Hispanic churches with no pastoral moves over the period.

The tmf coefficient is not statistically significant. One cannot draw any conclusion concerning the effects of the Clergy Initiate program on worship attendance from the clergy completing the programs in 2005.

Table 4 presents the regression results from those completing the Clergy Development in 2006.

Table 4

Growth in Average Worship Attendance

Clergy Development Class of 2006

```
      Source |       SS         df       MS              Number of obs =      240
-------------+------------------------------             F(  5,    234) =    6.00
       Model | 2.02638761       5  .405277521            Prob > F       =  0.0000
    Residual | 15.8080282     234  .067555676            R-squared      =  0.1136
-------------+------------------------------             Adj R-squared  =  0.0947
       Total | 17.8344159     239  .074620987            Root MSE       =  .25991


-----------------------------------------------------------------------------
  grow2_08_09 |     Coef.    Std. Err.      t     P>|t|     [95% Conf. Interval]
-------------+---------------------------------------------------------------
         age | -.0046837    .0022434     -2.09   0.038    -.0091035   -.0002638
        male |  .0580001    .0411327      1.41   0.160    -.0230377    .1390379
         tmf |  .2137108    .0897795      2.38   0.018     .0368315    .3905901
    pastcomp | -2.09e-06    6.21e-07     -3.37   0.001    -3.32e-06   -8.69e-07
      pgmexp |  7.75e-07    1.78e-07      4.35   0.000     4.24e-07    1.13e-06
       _cons |  1.278054    .1405628      9.09   0.000     1.001124    1.554985
-----------------------------------------------------------------------------
```

Again, the interest is in the tmf coefficient which, in this set of results, is positive and statistically significant.

Table 5 presents the results from clergy who completed the Clergy Development program in 2007.

Table 5

Growth in Average Worship Attendance

Clergy Development Class of 2007

```
      Source |       SS       df       MS                 Number of obs =      237
-------------+------------------------------             F(  5,   231) =     4.94
       Model |  1.59178369      5  .318356737             Prob > F      =   0.0003
    Residual |   14.882032    231  .064424381             R-squared     =   0.0966
-------------+------------------------------             Adj R-squared =   0.0771
       Total |  16.4738157    236  .069804304             Root MSE      =  .25382


------------------------------------------------------------------------------
   grow2_08_09 |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         age |  -.0034646   .0022289    -1.55   0.121    -.0078562     .000927
        male |    .062656   .0406251     1.54   0.124     -.017387     .142699
         tmf |   .1537979   .1058426     1.45   0.148    -.0547422    .3623381
     pastcomp |  -1.85e-06   6.21e-07    -2.97   0.003    -3.07e-06    -6.24e-07
      pgmexp |   7.26e-07   1.76e-07     4.13   0.000     3.79e-07    1.07e-06
        _cons |   1.193933   .1404025     8.50   0.000     .9172999    1.470566
------------------------------------------------------------------------------
```

In this set of results, the tmf coefficient is not statistically significant.

What these findings demonstrate is the strong result that participation in the Clergy Development program leads to church growth when a participant is appointed to a local church. The fact that the tmf coefficient is statistically significant for only the class of 2006 is not surprising. There were only five participants that were included in the class of 2005 regression while there were nine included in the class of 2006 regression. There were only six participants included in the class of 2007 regression. The absence of statistical significance in the two regressions relates directly to the fact that there are relatively few participants that meet the requirement for our analysis.

The coefficient of tmf for the class of 2006 regression equals 0.2137. The growth in average worship attendance for non-participants over this period was a minus 0.79%. The placement of a participant would expectedly increase the growth of worship attendance to a positive growth of 20.58%. This is a significant finding. It is a convincing finding in that there have been so few participants completing the program prior to the end of local church reporting (2009) and who have met the requirement that they remained in the same appointment between 2003 and 2009.

Other Results

Other regressions were conducted with no significant findings. The number of new members received by profession of faith was included in a series of regression equations with no evidence of an effect of participation. It is probable that the numbers of new members received by profession of faith

are not only volatile but most likely growing only after growth in average worship attendance. There is too few participants and too little time passed since completion of the Clergy Development programs to have had an observable effect.

Additionally, there were regressions designed to examine the impact of participation in Clergy Development programs on giving per attendee. The premise tested is simply participating clergy might successfully encourage generous giving which would possibly be reflected in local church spending patterns. The results were statistically insignificant.

The Potential Selection Bias

With the completion of the regression analysis, one must consider the extent to which the reported results are driven by selection bias. Again, if the TMF selected only very productive clergy, excluding all others, the results would likely be similar to those reported above. The Clergy Development program might then not have anything to do with the results.

In this examination, the selection bias is likely to be minimal—insufficient to affect the reported results. The number of clergy who have participated in the Clergy Development program is quite small—only 173 out of over 2,000. It is highly probable that the non-participant pool of clergy contains clergy who are quite similar to participants.

It is generally understood that clergy salaries tend to reflect the skills and effort of the clergy. The most skilled clergy tend to be appointed to the larger, higher paying churches. That is, differences in salaries provide information about differences in skills and effort. Therefore, the clergy salary is a useful indicator of clergy skills and effort. In examining the salaries of participants and non-participants, the range of salaries among participants fits within the range of salaries of non-participants. Participant salaries are never found outside the range of non-participant salaries. This suggests that it is possible to "match" clergy with similar skills and effort by matching salary levels.

Finally, the regression equations include a measure of clergy salaries. This inclusion adjusts worship attendance growth, probabilities of early retirement, and probabilities of early separation for differences in clergy salaries. Since to a large extent the salaries reflect differences in effectiveness, the regressions "match" levels of clergy skills and effort. This means that selection bias has been addressed by including salaries of clergy in the regression equations. Selection bias in these examinations should not create misleading results.

A Simulation

The findings from this examination have significant implications for our denomination within the state of Texas. The evidence supports the conclusion that the placement of a participant in the TMF Clergy Development program is expected to improve the growth of average worship attendance in the

appointed local church. This improvement takes time—as much as seven years to capture the full effect. The improvement likely requires the participant to remain in the same local church to capture the full effect, although there may be a significant effect even with a change in appointment. However, there is no evidence supporting this possibility.

Between 2003 and 2009, there were 240 churches within the state in which there no pastoral changes and the congregations were predominately white. Table 6 presents the average attendance results among churches with participating and non-participating pastoral leaders.

Table 6

Simulation[3]

	Number Churches	'03-'04 Attendance Per Church	'08-'09 Attendance Per Church	Attendance Change Per Church	Total Attendance Change
Non-Participant	231	591.1	587.6	-3.5	-810.8
Participant	9	634.0	667.1	33.1	298.0
New Church Start					100

Worship attendance, on average, among local churches with participating pastoral leaders during the 2003-2004 period was 591.1. By the 2008-2009 period, average worship attendance decreased to 587.6—a loss of 3.5 attendees per church and a total of 810.8 loss of attendees. Average attendance among local churches led by participating pastors was 634.0 in the 2003-2004 period and increased to 667.1 by 2008-2009—an increase of 33.1 attendees per church and a total increase of 298.

Earlier studies reported that after about nine years, a new church start averages 100 in worship.[4] Given that the nine participants increased worship attendance by 298, it follows that three participants promote about the same gain in worship as a new church start.

As a broader strategy for increasing average worship attendance in the state of Texas, these results demonstrate the usefulness of TMF's Clergy Development programs as a means of improving worship attendance among existing churches. In fact, average worship attendance in the state of Texas decreased from 301,449 in 2003 to 283,315 in 2009—a loss of 18,134. To completely eliminate this loss in worship attendance, it would have taken an additional 548 participants in the Clergy Development

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[3] The simulation is based upon averages for each group of churches rather than the regression coefficients. Using averages includes other significant changes that affected average worship attendance—both positively and negatively. This method of using the averages results in a more conservative simulation.
[4] Donald R. House and Lovett H. Weems, Jr*., New Church Starts 1985-2005, Texas, North Texas, and Southwest Texas Annual Conferences*, May 2008.

program. Given that there have been 173 participants through 2009, this would have been a manageable expansion in the program.

Although the results are strong, there is no claim here that the TMF Clergy Development program is the only available tool with which the denomination might reverse the decline in worship attendance. There are other effective tools available. However, this evidence strongly suggests that this program can become one of several strategies to be deployed in an effort to turn the denomination around, beginning with the state of Texas.

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