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An Investigation into Traits Common to Structured Ministers and Traits Common to Musical Ministers

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AN INVESTIGATION INTO TRAITS COMMON TO STRUCTURED MINISTERS
AND TRAITS COMMON TO MUSICAL MINISTERS

Date Recommended: January 22, 2002

Director of Thesis

[Signature]

Dean, Graduate Studies and Research

[Signature]
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This study examines behaviors and preferences that are characteristic of different positions of service inside a nonprofit church organization. Interviews with incumbents in the Structural Ministry and the Musical Ministry involved with the churches of Christ in Nashville, Tennessee, were conducted to identify traits and behaviors common to these distinct groups. The traits and behaviors identified in these interviews were then used to predict college students’ future membership into these positions. The NEO-FFI (Costa & McCrae, 1992) was also administered in order to assess the incremental value of a professionally developed instrument. The instrument successfully identified group membership, although some results did not agree with previous research in this area.
An Investigation into Traits Common to Structured Ministers and Traits Common to Musical Ministers

Occupational inventories are instruments designed to predict the possible career paths of interest to individuals. Primarily, these instruments are created for use by individuals in the starting or changing of their careers. There are several different occupational interest inventories available, such as the Strong Interest Inventory (Strong, Campbell, & Hansen, 1985) and Holland’s Self-Directed Search (Holland, Powell, & Fritzscbe, 1970). These tests primarily identify traits and beliefs that are similar between the test taker and incumbents in several different occupations.

Overview of Occupational Inventories

Holland’s six factor theory of occupational interest (Holland, 1973) is one of the cornerstones of occupational inventories. Holland found the occupational interest of individuals fell within one of six categories: artistic, investigative, conventional, realistic, social, and enterprising. Holland’s theory has been the basis for, or been referenced by, virtually all work that has been done in the field of occupational choice.

The most common of the instruments for occupational choice is the Strong Interest Inventory (Strong, Campbell, & Hansen, 1985) which is based on Holland’s six factor theory (Strong, Campbell, & Hansen, 1985). The instrument has 23 basic interest scales and 207 general occupational themes. One of the interest scales is religious activities, and one of the themes is minister. The inventory matches the interest of the respondent to those of incumbents in the various positions. Instruments such as the Strong Interest Inventory (1985) have an impressive record of successful prediction, with approximately 50 % correctly classified (Spokane, 1979).
Unfortunately, the instruments currently available will not distinguish between different specialties within a particular job. For instance, the instrument may indicate that an individual would be well suited for military/law enforcement careers. Within this group, however, there are finer distinctions that can be made (e.g., enlisted person or police officer or detective). It would be useful to consumers to have an instrument to identify the particular suboccupations inside the larger occupational groups. Thus, the focus of the current study is to design and validate a career guidance instrument with greater specificity in terms of job title.

Many of the roles of interest to the church would likely fall into Holland’s social factor under ministry. Ministry can be further specified into several categories: Structured Ministry (the typical positions the word “minister” or “preacher” would conjure), Musical Ministry (typically referred to as Song Leader), Benevolence Ministry, Educational Ministry, and Supportive Ministries (setup and maintenance of the facilities, record keeping and other preparatory activities). Although these areas might be touched upon in the currently available instruments, the focus is not on the usage of these interests in the setting of religious service. This study will focus specifically on the question of whether there are certain experiences or attributes that are common to those who pursue a career in the Structured Ministry. Additionally, the present study will determine where these attributes can be used at the college level to predict which students will pursue the paths of Structural Ministry and Musical Ministry.

The Case for the Use of Biodata

The current study will use a biodata approach to investigate the characteristics of those who enter the Structured Ministry and those who enter Musical Ministry in the
mainstream churches of Christ. Biodata was chosen for several reasons. Of course, the most common explanation would be that past behavior is the best predictor of future behavior. In addition to this classic statement, however, other reasons persist. Neiner and Owens (1985) stated that most major theories on occupational choice cite influences in the environment as crucial to occupational choice. Ginzberg (1951) concluded that there are certain life experiences which stimulate the individual and how the individuals reacts has important consequences. Biodata has been used for selection for more than 60 years (Breaugh & Dossett, 1989). Kilcullen, White, Mumford, and Harriet (1995) summarized several studies and stated biodata instruments typically yield validity coefficient between .30 and .40. Berdie (1944) found effects of experiences and family history on occupational interest. Clearly, life history is an proven predictor of the career an individual will undertake.

Known Influences of Occupational Choice

Several factors have been found to affect individual occupational choice. Muchinsky (1994) found sociometric status of the family contributes to the occupational choice of the individual. In addition, the control exercised over the individual by one’s parents (or the freedom allowed them instead) affects the occupational choice. In a summary of literature, Muchinsky stated that the warmth of the relationship between the individual and his/her parents has been found to play a role in determining the occupational choices of the individual.

Another area affecting occupational preference is group membership. A person’s involvement in athletic or academic groups may influence the choices he will later make. Academic interests also may be predictive of future occupation. Muchinsky (1994)
mentioned specifically that interest in science has been shown to dispose an individual toward a career dealing with things rather than with people. Muchinsky also stated that a socially active younger person is more likely to choose a career in a social environment than is one who is less socially involved.

A final area that may affect the later choice of occupation is that of a singular events in the childhood years. Muchinsky (1994) stated that individuals become interested in a particular career in an effort to recreate a pleasurable experience from childhood events. From the other direction, Muchinsky, as well as Neiner and Owens (1985), found a traumatic event could also cause a career choice. The effects of areas such as family, education, and past experiences are found in occupational decisions.

In addition to the aforementioned areas, Russel, Mattson, Devlin, and Atwater (1990) recommended giving particular attention to the cognitive and affective responses of individuals. The attitudes and behaviors of the individuals also have some predictive power and should be investigated. Once incumbents have been probed in these areas, Russel et al. stated that it is up to the investigator to further develop the actual questions. After these questions have been written, a second group of incumbents should be used in the scoring process.

**Creation of Biodata Items**

Russel et al. (1990) suggested six sources of biodata information. The most logical is life history interviews with incumbents. As such, the primary source of information for this study will be life history interviews with 20 current and former ministers (both Structured and Musical) in mainstream churches of Christ in the Nashville area. Other sources for biodata information included previously researched
biodata items and known life history correlates. Items with an established predictive validity are also a valid source of biodata items as well as the use of hypothesis developed from the investigator’s general psychological knowledge. The final source recommended by Russel et al. is through a literature search. The researcher primarily used literature searches and life history interviews.

Traits of Specific Interest to the Structured Ministry

Two traits have received significant attention from previous researchers. Although it should be mentioned that these traits were investigated using specific denominations, namely the Anglican Church and the Methodist Church, these traits still merit consideration in the present study. The first of these traits is neuroticism. Francis and Pearson (1990) reported finding elevated neuroticism scores among males in the ministry in England. This finding, however, has not been replicated in all studies. In a later study, Jones and Francis (1992) found the neuroticism scores among the clergy to be similar to the scores of the general sample.

The second trait under consideration is more promising. Compared to the general population, Francis and Rodger (1994) found depressed scores in the area of extroversion in a sample of male ministers in comparison to the norm. This finding was also reported by Francis (1991) and by Jones and Francis (1992). Because Jones and Francis appear to be the leading authorities in the area of minister traits, their agreement on the extroversion perspective warrants its inclusion in this study. Patrick (1991) stated several characteristics have been linked through research to ministers. These include enthusiasm, leadership skills, a capacity for caring, and an affirming style (Maddock, Kenny, & Middleton, 1973; Malony, 1984; Schuller, Strommen, & Brekke, 1980).
In addition to the research by Jones and Francis (1992), there have been several doctoral dissertations and theses have investigated particular traits of ministers or particular groups of ministers. Again, these studies did not focus on the same areas as this study. However, there was no research in these areas at any of the four of the largest church of Christ affiliated universities (Abilene Christian University in Abilene, Texas; Pepperdine University in Malibu, California; Harding University in Searcy, Arkansas; and Lipscomb University in Nashville). As such, it is necessary to consider the work done in other Christian groups as a basis for this study.

In his dissertation, Wilson (1994) investigated ministers in Puerto Rico. He was particularly interested in empathic disposition, a trait that is believed necessary for those who enter the Structured Ministry. Wilson examined his findings by both sex and age. For younger male ministers, Wilson found a positive correlation between trust and empathic disposition. Wilson also found a positive correlation between empathic disposition and self-acceptance in both older and younger male ministers. Both of these traits are considered for the current study.

Although not directly related to ministerial characteristics, two studies concerning career choice also identified a potential characteristic of Structured Ministers. White, Campbell, Stewart, Davies, and Pilkington (1997) found the eldest child was most likely to choose a leadership and social role. This finding is based on psychological rather than genealogical birth order. Psychological birth order refers to the position with which an individual identifies. The psychological birth order may or may not be the same as their genealogical order. A classic example might be an oldest child who is psychologically an only child because the individual’s sibling is fifteen years younger. Although
investigating the psychological ages of the participants is outside the confines of the current study, White et al. stated that the psychological eldest child correlates highly with the chronologically oldest child. As such, the birth order of the participants will be included in this study. The occupation of minister falls under the social factor of Holland’s theory (Gandy et al., 1994). Therefore, it is logical to presume the eldest child is more likely to enter the Structured Ministry.

Pontius (1993) found in his dissertation several characteristics common to those who pursued the Structural Ministry. The first characteristic was self-respect. Pontius also found that Structured Ministers were more likely to accept their limitations than were those who were not Structured Ministers. Finally, Pontius found most ministers were likely to possess the ability to work either independently or in a group with others.

Concerns with the Use of Biodata

One of the main issues of concern with biodata based predictive instruments is their stability over time. The events of a given period of time, along with the maturing process that occurs during that period, will have an effect on the preferences expressed by the individual. Zarrella and Schuerger (1990) reported that both the age of the individual and the period of time between the two testing periods affect stability of biodata. This issue is of limited concern. The role an individual plays in the church can change over time as he/she matures.

As with any form of testing, there is concern for error. Intentional faking is the primary non-random source of error with all non-cognitive tests. Fortunately, faking can be controlled. An option keying system was found by Kluger, Reilly, and Russel (1991) to reduce the occurrence of faking. Objective questions have also been found to be more
resistant to faking than subjective questions (Lautenschlager, 1994). Additionally, faking is not a great concern in career guidance, the focus of the developed instrument. Other concerns for error are distorted memory and response bias. The other primary source of error is carelessness. These concerns, however, are present in most forms of testing.

Creating Quality Items

There have been many suggestions for the construction of a high quality biodata item. Neiner and Owens (1985) suggested using only verifiable information in the questions because this has approach has been shown to reduce faking on the part of the participants. Nickels (1994) also suggested that the questions should focus on attributes needed for the job that have been displayed by actions in the participants past. An alternative is to design questions that ask about an attribute that assists in the development of the desired attribute. Russel et al. (1990) recommend that two questions be asked about each piece of information: the frequency of an event and the individual’s success in the particular situation.

According to Nickels (1994), all biodata share three attributes. These include history, methodological variables, and legal/moral issues. History refers to the data being concerned only with past events. This focus on the past is the primary difference between biodata and personality items. Methodological variables have several components. Externally refers to the extent the items concern observable behaviors or events. Objectivity is the extent to which the item is investigating factual information. Similarly, first handedness is whether the information is from the individual or is the interpretation of actions by another individual. Also worth considering are the discreteness and the verifiability of the item.
The third attribute of biodata information is concerned with legal and moral issues. Nickels (1994) identified four components of this attribute. Do the items have controllability? Controllability refers to the ability of the individual to control the situations under inquiry. Also, will all respondents have the same accessibility; that is, will all applicants have had the same opportunity for involvement in the situations investigated by the instrument (e.g., “Did you play football in high school?”). The third component is the job relevance of the item. The final component, the legal and moral attribute, concerns the invasiveness of the items. Nickels (1994) suggested considering the degree to which the items will intrude into areas the applicants may reasonably prefer to keep private. Nickels suggested that areas concerning family background and marital status should not be used unless there is ample reason. In addition, Nickels suggested biodata items should focus on job-relevant content. Nickels main concern relative to this point is the face validity of the items. Fortunately, for this researcher, Stone and Jones (1997) found individuals are less suspicious of the fairness of the questions when collected for career guidance purposes than for selection purposes. Because this study is, in form, a career guidance program, the applicants should be comfortable with the questions asked.

Keying Biodata

Once the test has been created, a method must be devised for scoring the responses – one that will give the test predictive ability. The most common item analysis and scoring procedure is empirical keying. The empirical keying procedure begins with the definition of a reference group (those who would be predicted to possess some attribute) and of an alternate group (those who would not be predicted to possess this
attribute). These groups are then administered the instrument. Items showing dramatic differences in the percentage endorsed by the reference group versus the alternate group are retained and indicate membership in the ingroup. Questions that do not discriminate between the groups are deleted.

**College Students and Predicting Career Choice**

The current study consists of a sample of undergraduate students from a small private college in Nashville; it is affiliated with the churches of Christ. The literature contains some criticism of using students as participants. Wilkinson (1997) criticizes this approach stating college students are not similar to the general sample and typically have no work experience. Neiner and Owens (1985), however, found they could predict the occupations pursued after college through biodata obtained during college. Lipset, Bendix, and Malm (1962) were also successful with predictions regarding college students. They found a relationship between life experiences and first job after college. These two studies indicate the use of college students is acceptable. It should then be possible to predict preferences for specific ministerial positions, whether they are voluntary or compensated, through the use of life history information from college age participants.

**Hypotheses**

The focus of this study is the use a newly developed life history questionnaire to predict ministerial area occupational choices within the church of Christ. Because this study employed college students at a university affiliated with the church of Christ, the students’ declared field of study in college served as their indicator of occupational choice. From the biographical data collected, we expect to identify students who belong
to the Structured Ministry group (pursuing a Bachelor of Science in Bible-Language, Bible-Youth Ministry, Bible-Missions, or Bible-Preaching). We will also identify those who are members of the Musical Ministry (individuals pursuing Bachelors of Science in Performance-Voice, Performance-Theory/Composition, Music teaching-Vocal, or a minor in general music or church music) versus an Other Ministry group, comprised of any individuals not falling into one of these two groups.

Hypothesis 1: Students majoring in the study of a biblical major will score higher on the items keyed to the Structural Ministry than those pursuing a bachelor’s degree in other fields.

Hypothesis 2: Students majoring in the fields of music will score higher on items keyed to identify Musical Ministry group membership than those pursuing a bachelor’s degree in other fields.

Hypothesis 3: A discriminant analysis of the scores from biblical, musical, or other majors will correctly classify participants as members of the Structural Ministry, Musical Ministry, or Other Ministry group.
Method

Participants

The first phase of the study, collection of life history information, included ten members of the Structural Ministry and ten members of the Musical Ministry. Phase two, item analysis, was conducted with 60 participants from the Structured Ministry, Musical Ministry, and general church populace of the mainstream churches of Christ in Nashville. To be considered a mainstream church of Christ, the congregation must hold to the basic beliefs of the churches of Christ. In addition, the congregations were not non-institutional churches. Non-institutionalized churches of Christ believe the Bible command to have independent elders over each church means the churches should not work together in any task (such as colleges or orphanages) since this practice would, in effect, place one church under the authority of another church’s eldership. Additionally, the churches, included in the study, baptized in the name of the Trinity and did not use any form of the “one cup communion method.” The churches also used no instruments in the worship service.

The final portion of the study, the cross validation of the instrument, was conducted using undergraduate and graduate college students at a small liberal arts university in Nashville affiliated with the church of Christ. In order to participate in the study, the student must have declared a major or have a particular field of study in mind. If the students had no clear idea of what the wanted to study, they were not included. In addition, those whose religion was different from that of the church of Christ were not included. Because females cannot perform in the Structural or Musical Ministry in the
typical manner, they were also excluded. These exclusions left a sample of 70 college
students and graduate students for analysis in the study.

Procedure

As previously discussed, a literature search for characteristics previously found in
ministers was conducted in an effort to identify some areas to investigate. Additionally,
life history interviews were administered to twenty individuals who are currently or have
been ministers or songleaders in mainstream churches of Christ in Nashville. The
interviews were based on a set of 15 standard questions (see Appendix A). On average,
the interviews lasted 45 minutes. The incumbents were asked to describe themselves as
children and as teenagers. They were also asked about their involvement with the church
when they were teenagers and the age at which they were baptized and why they chose to
be baptized at that time. The last two questions asked the incumbents were what traits
ministers needed to possess and which of those traits were needed before incumbents
started or if they could be learned on the job. Traits that could be learned on the job were
discarded.

The researcher examined the items developed from these two sources (the
literature review and the interviews) in an effort to recognize trends that appeared in one
of the two groups examined. A trend was considered to be present if at least three
incumbents mentioned it. Questions were then written in a self-report format. The initial
instrument consisted of 204 questions written in multiple choice and forced choice format
(see Appendix B) plus the 60 items from the NEO-FFI (Costa & McCrae, 1992).

After the items for the instrument were developed, the item analysis proceeded. A
group of 60 individuals from the churches of Christ in Nashville was used in this stage:
20 Structured Ministers, 20 Song Leaders, and 20 individuals not serving in either of these capacities, referred to in the study as “Other Ministers.” All questions in the scoring phase, including the NEO-FFI (Costa & McCrae, 1992) items, were administered to the entire group. The data were reorganized into three data sets.

Analysis

In each data set the criterion variable, group membership, was recoded into a dichotomous variable (i.e., member of group versus not member of group). Thus, each item was examined three times, once for each group compared to the rest of the sample. The final version of the instrument included all items that could discriminate between groups at a statistically significant level in any one of these three analyses. Items not discriminating between groups in one of the three analyses were removed from the instrument. Due to characteristics of the materials used to collect data, the traditional keyed values for “yes” and “no” responses were reversed. The result of this procedure is that negative correlations indicated that the criterion group agreed with the question, and positive correlations indicated that the criterion group disagreed with the question. This characteristic existed only for the item analysis phase. Calculations of total scale scores were in the traditional direction (i.e., higher scores indicated greater likelihood of membership for relevant group). For a small subset of items, more than two answers were available. For these questions, it was possible to earn a partial point. The revised instrument was then administered to the student sample. The criterion variable, career choice, was also collected from the student sample. In the event of missing data for a given test item, the answer was scored in the incorrect direction.
After the instrument was administered to the college students, it was scored according to the key formed from the 60 incumbent responses. Scores were generated for the Structured Minister, Musical Minister and Other Ministry scales imbedded in the instrument. Thus, each student had three scores on the test, as is traditional for interest inventories. Correlations for each scale (related to its hypothesized group) were conducted using a dichotomized dependent variable (i.e., membership in the relevant group versus the other two groups combined). Finally, a discriminant analysis was conducted using a single field of study variable (Structured Ministry, Musical Ministry, or Other Ministry) as the criterion and the three scale scores as predictors. Sample frequency estimates were set as equal.

There was some concern in the Musical Minister scale as regards the influence of an individual’s ability to sing. An abbreviated scale instrument was constructed; items inquiring about the participant’s voice were eliminated. Items inquiring into other aspects of music were retained. A correlation was calculated using an abbreviated Musical Minister scale and the criterion. Appendix D contains the abbreviated instrument. Also, the abbreviated instrument did not include the NEO-FFI (Costa & McCrae, 1992) items. A discriminant analysis was also conducted using the three scales in the abbreviated instrument.
Results

Item Generation

The interviews with the incumbent ministers suggested that there would be a correlation between introversion and Structural Ministers. Three of the ten Ministers identified themselves as being introverted. Additionally, four stated they had a sheltered life when they were children. Three stated they had wanted to be an accountant when they were children. None identified any major life event that might have directed their decision to enter the ministry. The Song Leaders interviewed suggested there was a need for the Song Leader to enjoy being the center of attention. They also suggested the Song Leader should be a dominant personality in order to control the entire church while singing. They also stated Musical Ministers needed to have a good voice. There was a relatively low degree of consensus regarding the nature of the job of a Song Leader. Some were responsible for singing groups and plays, whereas others served as the general worship organizer, and still others simply selected the songs or led songs other individuals selected for them. Appendix B lists the entire initial item pool developed from these interviews.

Item and Analysis

The participants in the scoring sample had a varied background in their fields of study. Most participants had a college degree. There was no uniformity, however, in the study of Musical Ministers. This finding was not a complete surprise, considering the informal nature of the musical worship in which churches of Christ engage. More surprising was the lack of uniformity in the field of study chosen by members of the
Structured Minister group. Although the majority did have degrees in some form of Biblical study, one had a degree in history and another had a degree in accounting.

Of the 196 items initially developed (not including the NEO-FFI items), 55 had significant correlations with at least one group of the scoring sample (the three groups of 20 participants each). Aside from mere significance (\( p < .05 \), two-tailed test), the strength of the correlation was not considered in the selection of final items. Appendix C lists the items included in the final version and indicates the scale or scales to which the item contributed as well as whether the item was scored positively or negatively. Six NEO-FFI items correlated with one of the three groups.

**Cross Validation**

Correlations between the student college major and scores on the three scales are listed in Table 1.

**Table 1**

**Correlations Between College Groups And Scales With NEO-FFI Items**

<table>
<thead>
<tr>
<th>Group</th>
<th>Ministerial Group Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Structured</td>
</tr>
<tr>
<td>Structured Ministers</td>
<td>0.522*</td>
</tr>
<tr>
<td>Musical Ministers</td>
<td>0.083</td>
</tr>
<tr>
<td>Other Ministers</td>
<td>-0.544*</td>
</tr>
</tbody>
</table>

*Note.* \( p < .05 \), two tailed.
None of the six NEO-FFI items were concentrated on any single factor. Table 2 summarizes the correlations between student college major and scale scores upon removal of these six questions.

### Table 2

**Correlations Between College Groups And Scales Without NEO-FFI Items**

<table>
<thead>
<tr>
<th>Group</th>
<th>Ministerial Group Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Structured</td>
</tr>
<tr>
<td>Structured Ministers</td>
<td>0.550*</td>
</tr>
<tr>
<td>Musical Ministers</td>
<td>0.041</td>
</tr>
<tr>
<td>Other Ministers</td>
<td>-0.546*</td>
</tr>
</tbody>
</table>

**Note.** * p < .05, two tailed

All correlations between scale score and hypothesized group membership were strong and significantly differed from zero. The correlation for the Musical Ministers increased slightly with the removal of the NEO-FFI items from .610 to .615. The Other Ministry group correlation also increased from .633 to .638. The Structural Minister correlation increased from .522 to .550 when these items were removed. As a result, it appears the removal of the NEO-FFI items from this instrument would not result in a loss of predictability. The correlation for the abbreviated Musical Minister scale (which also did not include the NEO-FFI items) was .438 (p < .05).

The results of the discriminant analyses were encouraging, as was to be expected from the high correlations reported above. With the inclusion of the NEO-FFI (Costa &
McCrae, 1992) items, Wilk’s Lamda for both functions were significant. The lambda for function one with the NEO-FFI items was .358 (p < .05) and .779, (p < .05) for function two. When the NEO-FFI items were removed from the instrument, the Lambda for function one dropped slightly to .346 (p < .05). Function two dropped to .749, (p < .05). The difference is fairly small and suggests that the scales would still be useful without the NEO-FFI items. Overall, 78.3% of participants were correctly classified in the discriminant analysis with the NEO-FFI items. The percent correctly classified was identical without the NEO-FFI at 78.3%. With the abbreviated instrument, the Wilk’s Lambdas were still significant (.374 for function one and .776 for function two).

Additionally, 73.1% of the test takers were correctly classified with the use of the abbreviated Musical Ministry scale. Tables 3 through 12 summarize the results of the discriminant analyses.

Table 3

Wilk’s Lambda for the Discriminant Analysis with NEO-FFI Items

<table>
<thead>
<tr>
<th>Test of Function(s)</th>
<th>Wilk’s Lambda</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 through 2</td>
<td>.358</td>
<td>66.819</td>
<td>6</td>
<td>.00</td>
</tr>
<tr>
<td>2</td>
<td>.779</td>
<td>16.247</td>
<td>2</td>
<td>.00</td>
</tr>
</tbody>
</table>
Table 4

Wilk’s Lambda for the Discriminant Analysis without NEO-FFI Items

<table>
<thead>
<tr>
<th>Test of Function(s)</th>
<th>Wilk’s Lambda</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 through 2</td>
<td>.346</td>
<td>69.055</td>
<td>6</td>
<td>.00</td>
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<tr>
<td>2</td>
<td>.749</td>
<td>18.811</td>
<td>2</td>
<td>.00</td>
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Table 5

Wilk’s Lambda for the Discriminant Analysis with Abbreviated Musical Ministry Scale

<table>
<thead>
<tr>
<th>Test of Function(s)</th>
<th>Wilk’s Lambda</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
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<tbody>
<tr>
<td>1 through 2</td>
<td>.374</td>
<td>61.937</td>
<td>6</td>
<td>.00</td>
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<td>2</td>
<td>.776</td>
<td>15.958</td>
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Table 6
Percent Correctly Classified through Discriminant Analysis

<table>
<thead>
<tr>
<th>Group Membership</th>
<th>With NEO-FFI</th>
<th>Without NEO-FFI</th>
<th>Abbreviated</th>
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<tbody>
<tr>
<td></td>
<td>Items</td>
<td>Items</td>
<td>Scale</td>
</tr>
<tr>
<td>Structural Ministers</td>
<td>72.7</td>
<td>72.7</td>
<td>78.1</td>
</tr>
<tr>
<td>Musical Ministers</td>
<td>85.7</td>
<td>85.7</td>
<td>69.2</td>
</tr>
<tr>
<td>Other Ministers</td>
<td>78.8</td>
<td>78.8</td>
<td>68.2</td>
</tr>
<tr>
<td>Overall</td>
<td>78.3</td>
<td>78.3</td>
<td>73.1</td>
</tr>
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</table>

Table 7
Canonical Discriminant Function Coefficients with NEO-FFI Items

<table>
<thead>
<tr>
<th>Function</th>
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<th>Two</th>
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</thead>
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<tr>
<td>Other Ministers</td>
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<td>.044</td>
</tr>
<tr>
<td>Musical Ministers</td>
<td>.114</td>
<td>.106</td>
</tr>
<tr>
<td>Structural Ministers</td>
<td>.155</td>
<td>-.149</td>
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<tr>
<td>Constant</td>
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<td>-.041</td>
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</table>
Table 8
Canonical Discriminant Function Coefficients without NEO-FFI Items

<table>
<thead>
<tr>
<th>Function</th>
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<th>Two</th>
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</thead>
<tbody>
<tr>
<td>Other Ministers</td>
<td>.007</td>
<td>.042</td>
</tr>
<tr>
<td>Musical Ministers</td>
<td>.117</td>
<td>.106</td>
</tr>
<tr>
<td>Structural Ministers</td>
<td>.156</td>
<td>-.164</td>
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<tr>
<td>Constant</td>
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<td>-.008</td>
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Table 9
Canonical Discriminant Function Coefficients with Abbreviated Musical Ministry Scale

<table>
<thead>
<tr>
<th>Function</th>
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<th>Two</th>
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</thead>
<tbody>
<tr>
<td>Other Ministers</td>
<td>.096</td>
<td>.001</td>
</tr>
<tr>
<td>Musical Ministers</td>
<td>.152</td>
<td>.250</td>
</tr>
<tr>
<td>Structural Ministers</td>
<td>-.061</td>
<td>.093</td>
</tr>
<tr>
<td>Constant</td>
<td>.736</td>
<td>-.262</td>
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<td>Function</td>
<td>Career</td>
<td>One</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------</td>
<td>------</td>
</tr>
<tr>
<td>Structured Minister</td>
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<td>.689</td>
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<tr>
<td>Musical Minister</td>
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<td>.736</td>
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<tr>
<td>Other Minister</td>
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Table 11

Functions at Group Centroids for the Discriminant Analysis without NEO-FFI Items

<table>
<thead>
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<th>Function</th>
<th>Career</th>
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<th>Two</th>
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</thead>
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<tr>
<td>Structured Minister</td>
<td>.686</td>
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<td>Musical Minister</td>
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<td>.816</td>
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<tr>
<td>Other Minister</td>
<td>-1.068</td>
<td>.149</td>
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Table 12

Functions at Group Centroids for the Discriminant Analysis for Abbreviated Musical Ministry Scale

<table>
<thead>
<tr>
<th>Function</th>
<th>Career</th>
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<th>Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structured Minister</td>
<td>.776</td>
<td>.634</td>
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<tr>
<td>Musical Minister</td>
<td>1.258</td>
<td>.848</td>
<td></td>
</tr>
<tr>
<td>Other Minister</td>
<td>-1.045</td>
<td>-.091</td>
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</table>
Discussion

As with any organizations, it is beneficial for churches to identify the best possible candidates for each area in which the church is involved. Although further research is needed, the inventory created for this study would be an asset in this endeavor. All hypothesis were supported by the data. Ideally, the instrument developed will be used to assist these individuals in the churches of Christ unsure of what role they should play in the church. There has also been some interest from the university, where the research was conducted, to use this instrument for identifying potential Bible majors in the incoming freshman classes. It is important to realize the instrument was designed to assist in career guidance and not in selection. As with all interest inventories, this instrument should only be used only to guide individuals unsure of an occupational choice within the church and not to determine whether they are likely to be successful at that occupation.

The ultimate goal of this instrument would be to identify the ministerial potential at an early age, high school or middle school. As such, a longitudinal study is needed to offer conclusive evidence of the instrument. Although the college sample answered the items in a similar manner to the older group used to score the instrument, the use of different age groups in this study allows the potential for generational differences in the scores generated. For instance, more than one of the Structural Ministers described growing up on a rural farm and almost never coming into town except on Sunday. In today’s world, with better road systems and improved automobiles, few farms are as isolated from the outside world as they were 50 years ago. This mobility could influence the career choice. It is also important to realize that participants’ choice of major may
have opened them to experiences that set them apart; that is, their major may have led
them to answer some question in a particular direction. For instance, those pursuing a
Bachelor’s Degree in Music might have learned the term Lydian Mode as part of their
pursuit and not as a result of their earlier life. Most of the questions, however, are not
necessarily compromised in this manner (you do not need to major in Biblical studies to
enjoy debate in high school). A longitudinal study would address and resolve these
concerns.

A broader study beyond Nashville would also prove useful, although there is no
reason to expect any marked differences between this sample and other areas of the
country, especially metropolitan areas. It would also be interesting to investigate whether
the scale would hold up in denominations similar to the church of Christ, such as the
Disciples of Christ or the Christian Church.

Revisiting how the groups are defined is also worth considering. Three of the
incumbent ministers studied other fields in college and did not receive degrees in
ministry until later in life. It is also a fallacy to believe that all ministers even possess a
college degree at all. Similarly, few individuals fulfilling the role of the Musical Minister
studied music in school.
References


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Appendix A
Interview Question for Life History Interviews with Incumbents

1. What subjects did you like to study in High School
2. What subjects did you not like to study in High School
3. Describe yourself as a child
4. How did that change as a teenager
5. What Hobbies did you have as a teenager
6. What Hobbies do you have now
7. What Extra curricular activities were you involved in (debate, chorus, sports)
8. Did you have any Mentors in High School
9. Did the church you grew up in have a Youth Group
10. What was your involvement in the church as a teenager
11. Describe the family you grew up in (brothers/sisters, parents, etc)
12. What did you “want to be when you grew up”
13. When did you become a Christian and why did you pick that time?
14. What was the Size and location of church in which you grew up
15. Describe your current family (wife, children)
16. Were you in a social club or fraternity while in college?
17. Was there an event or series of events that you can identify as having changed the path of your life?
18. What is your official Title
19. What are your responsibilities
20. What traits do (Structural or Musical) Ministers need?
21. I am going to read back the list of traits you named, tell me if they are needed before someone starts his ministry, or if he can pick them up on the job
Appendix B

Initial Items Developed

1. Did you enjoy music classes in school
   1. Yes  2. No

2. Do you have a specified place to study
   1. Yes  2. No

3. Did your mother teach Sunday school classes
   1. Yes  2. No

4. Are your parents members of the church of Christ
   1. Yes  2. No

5. Are you the oldest child in your family
   1. Yes  2. No

6. How early do you wake up before you need to be somewhere (Not including the time needed for travel)
   1. < 20 minutes  2. 20 - 40 minutes  3. 40 - 60 minutes  4. More than 60 minutes

7. Do you get nervous when you are speaking to a group
   1. Yes  2. No

8. Have you ever thought of being an accountant
   1. Yes  2. No

9. Do you enjoy studying subjects where experts cannot agree on what is correct
   1. Yes  2. No

10. Were you outgoing as a child
    1. Yes  2. No

11. When you sing without others and without instruments, do you tend to go flat or sharp
    1. Yes  2. No

12. Have there been times in the past where you have desired to take charge in a situation
    1. Yes  2. No

13. Have you ever thought of becoming a teacher
    1. Yes  2. No

14. Have you ever given the comments at the Lord's Supper
    1. Yes  2. No

15. Did you take private instrument lessons
    1. Yes  2. No

16. Do you tighten your throat muscles when you sing
    1. Yes  2. No

17. Is your car clean
    1. Yes  2. No
18. Did/does your father lead singing in church
   1. Yes  2. No

19. Did you have a "sheltered" childhood
   1. Yes  2. No

20. Does your mother play a musical instrument
    1. Yes  2. No

21. If left to your own freewill, would you enjoy reading 200 pages in a day
    1. Yes  2. No

22. Have you ever tried writing poetry
    1. Yes  2. No

23. Was your youth group involved in the worship service
    1. Yes  2. No

24. Have you ever been in a singing group
    1. Yes  2. No

25. Do you like to complete a task before moving on to another one
    1. Yes  2. No

26. Are/were/do you plan to join a social club/fraternity in college
    1. Yes  2. No

27. Have you ever started a conversation with someone at a social gathering who you did not know
    1. Yes  2. No

28. Is your check book balanced
    1. Yes  2. No

29. How important was a Christian education to you
    1. Very Important 2. Important 3. Not Very important 4. Didn't really plan on one

30. Do you receive any scholarships because of your field of study
    1. Yes  2. No

31. Can you read music
    1. Yes  2. No

32. Do you feel anxious when you have to speak in public
    1. Yes  2. No

33. Have you ever researched a topic in depth by your own choice
    1. Yes  2. No

34. Do you enjoy studying mathematics
    1. Yes  2. No

35. Was your Grandfather a minister
    1. Yes  2. No

36. Is your father a singer
    1. Yes  2. No
37. Do you frequently lose your keys
   1. Yes  2. No
38. Were you ever in a musical
   1. Yes  2. No
39. Would you prefer to talk to someone over the phone or face to face
   1. Face to Face  2. Over the Phone
40. Are your parents still married
   1. Yes  2. No
41. Are any of your uncles ministers
   1. Yes  2. No
42. Would you prefer to email someone or talk to them face to face
   1. Email  2. Face to Face
43. Did you have a job in high school
   1. Yes  2. No
44. Do you enjoy philosophy
   1. Yes  2. No
45. Do you make lists of things to take with you
   1. Yes  2. No
46. Are you the youngest child in your family
   1. Yes  2. No
47. Did you work on your high school/college newspaper/yearbook
   1. Yes  2. No
48. Which would you prefer to play, Solitaire or Poker
   1. Solitaire  2. Poker
49. Did you enjoy studying history in school
   1. Yes  2. No
50. Do you receive any scholarships from areas other than your field of study
   1. Yes  2. No
51. Have you ever had a summer job
   1. Yes  2. No
52. Did you study a foreign language in high school
   1. Yes  2. No
53. Was getting baptized a matter of a logical progression for you
   1. Yes  2. No
54. Does your father play a musical instrument
   1. Yes  2. No
55. Do you make an outline when you write a paper
   1. Yes  2. No
56. Did your family move around a lot when you were a child
   1. Yes  2. No
57. Do you keep a folder of your previous financial statements
   1. Yes  2. No

58. Were you in chorus in school
   1. Yes  2. No

59. Are you a people person
   1. Yes  2. No

60. Do you have a planning calendar
   1. Yes  2. No

61. Do you take criticism given to a general audience personally
   1. Yes  2. No

62. Do you enjoy studying history
   1. Yes  2. No

63. Agree or disagree: If at first you don't succeed, try try again
   1. Agree  2. Disagree

64. Do you read your Bible at least once a week
   1. Yes  2. No

65. Can you read shape notes
   1. Yes  2. No

66. Were you shy as a child
   1. Yes  2. No

67. Are you "Slow to anger"
   1. Yes  2. No

68. How many years have you been in some sort of Chorus
   1. None  2. 1 to 4  3. 4 to 8  4. 8 to 12  5. More than 12

69. Did you enjoy science in school?
   1. Yes  2. No

70. Is your mother a good singer
   1. Yes  2. No

71. In your spare time, would you prefer to work on a personal project or watch TV
   1. Work on a Project  2. watch TV

72. How many siblings do you have
   1. Yes  2. No

73. Did you have chores growing up
   1. Yes  2. No

74. Which teacher did you like more your music teacher in high school or your biology teacher
   1. Music Teacher  2. Biology teacher

75. Did you enjoy speech class
   1. Yes  2. No

76. Have you ever taught yourself a new skill
   1. Yes  2. No
77. Have you ever tried writing music
   1. Yes  2. No

78. Do you read your Bible every day
   1. Yes  2. No

79. Have you ever become annoyed with people over matters you realized later were trivial
   1. Yes  2. No

80. Did you have a happy childhood
   1. Yes  2. No

81. At what age did you get your first job
   1. Under 12  2. 13 to 15  3. 16 to 18  4. After 18  5. I have never had a job

82. Is your room neat and clean
   1. Yes  2. No

83. Do you fold your clothes and put them away after you wash them
   1. Yes  2. No

84. Do you occasionally hold grudges
   1. Yes  2. No

85. Do you enjoy studying Science
   1. Yes  2. No

86. Were you on the debate team in high school
   1. Yes  2. No

87. Do you keep your notes from classes organized
   1. Yes  2. No

88. When studying the Bible, do you use outside sources (commentaries, expository dictionaries, etc).
   1. Yes  2. No

89. Did you quarrel a lot with your siblings before college
   1. Yes  2. No

90. How much time do you spend on average studying per day,
   1. Less than 1 hour  2. 1-2 hours  3. more than 2 hours

91. Do you have an address book
   1. Yes  2. No

92. Have you ever thought of going into politics
   1. Yes  2. No

93. How do you feel when someone criticizes you:
   1. I consider what they say and evaluate the suggestion
   2. It does not bother me, but I usually don’t listen
   3. I do not like it, but I listen anyway
   4. It offends me
94. Were you on any of your high schools sports teams
   1. Yes  2. No
95. Did you admire the president when growing up
   1. Yes  2. No
96. Where in the U.S. is your home state
97. Have you ever started songs at a Deco
   1. Yes  2. No
98. How much time do you spend on average praying,
   1. Less than 5 minutes  2. 6 to 15 minutes
   3. 16 to 30 minutes  4. more than 30 minutes
99. Do you have perfect pitch
   1. Yes  2. No
100. Do you enjoy singing
   1. Yes  2. No
101. Have you enjoyed classes that focused on creative writing
   1. Yes  2. No
102. Did you admire your youth minister
   1. Yes  2. No
103. Was/is your father an elder
   1. Yes  2. No
104. Do you "sing from your diaphragm"
   1. Yes  2. No
105. Have you ever taken any kind of musical lessons
   1. Yes  2. No
106. Are you familiar with the term "Lydian mode"
   1. Yes  2. No
107. Do you iron your clothes regularly
   1. Yes  2. No
108. When writing a paper, do you create an outline first
   1. Yes  2. No
109. Have you considered studying journalism
   1. Yes  2. No
110. Did you take trigonometry in high school
    1. Yes  2. No
111. Has any one ever complimented you on your voice
    1. Yes  2. No
112. Did you enjoy biology
    1. Yes  2. No
113. Do you maintain your car as recommended by the manufacturer
    1. Yes  2. No
<table>
<thead>
<tr>
<th>Question</th>
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<tr>
<td>Did you have a youth minister</td>
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<tr>
<td>Do you have a soar throat after singing for a while</td>
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</tr>
<tr>
<td>Do you plan to pursue education after college (such as a master's or doctorate?)</td>
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<td></td>
</tr>
<tr>
<td>Can you follow the 7 fold Amen at the end of &quot;The Lord Bless You and Keep You&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you ever been asked to sing a solo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you take geometry in high school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you attend a Christian high school</td>
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<tr>
<td>Have you waited on the Lord's Table</td>
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<td></td>
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<td>How large was the church you grew up</td>
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<tr>
<td>Did you enjoy Physics</td>
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<tr>
<td>Was Lipscomb one of your top three choices for college</td>
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<tr>
<td>Have you stood up for your beliefs in the past</td>
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<td></td>
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<tr>
<td>Did you enjoy your English classes in high school</td>
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<td></td>
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<tr>
<td>Did some major event happen in your life that led you to be baptized at the specific time you were</td>
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<tr>
<td>Were you responsible for a pet growing up</td>
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<tr>
<td>Do your roommates think you are untidy</td>
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<td></td>
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<tr>
<td>Do 6 or more years separate you from your siblings</td>
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<tr>
<td>Have you ever acted in a musical</td>
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<tr>
<td>Are your parents separated</td>
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<tr>
<td>Do you read you Bible at least every other day</td>
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</table>
134. Do you have a specified times for studying
   1. Yes  2. No

135. Do you have a separate notebook for each class
   1. Yes  2. No

136. Are any of your brothers Song Leaders
   1. Yes  2. No

137. Have you taken any musical instruction classes other than music appreciation
   1. Yes  2. No

138. Did your father teach Sunday school classes
   1. Yes  2. No

139. Did you admire your father when growing up
   1. Yes  2. No

140. Do people trust you to do something you agreed to do without checking up periodically
   1. Yes  2. No

141. Do you frequently hold grudges
   1. Yes  2. No

142. Do you sing along with the radio when you drive
   1. Yes  2. No

143. Were/are you a good student
   1. Yes  2. No

144. Do you frequently become annoyed with people over matters you realized later were trivial
   1. Yes  2. No

145. Which would you prefer to play, a computer game by yourself, or one where you could work with other people online
   1. By myself  2. Online

146. Do you fold your laundry
   1. Yes  2. No

147. Did you admire your Song Leader when growing up
   1. Yes  2. No

148. Would you prefer a coworker who is a hard worker or one who is friendly
   1. Hard working  2. Friendly

149. Do you take an aggressive schedule of classes
   1. Yes  2. No

150. Are there more than 6 years separating any of your siblings from the you and the rest of your siblings? For example, you are 18, you have one brother who is 16 and one sister who is 30
   1. Yes  2. No

151. Do you prefer to study for a test by yourself or with a group
   1. By myself  2. With a group
152. Are/do you plan to marry (this doesn't necessarily mean you have a mate picked out)
   1. Yes  2. No

153. Have you ever acted in a play
   1. Yes  2. No

154. Did you admire your pulpit minister at your home church
   1. Yes  2. No

155. Did you have any positions of leadership in high school
   1. Yes  2. No

156. Did you admire your English teacher when growing up
   1. Yes  2. No

157. Have you ever been interested in studying a foreign language
   1. Yes  2. No

158. Have you ever thought of being a preacher
   1. Yes  2. No

159. Is/was your dorm room clean
   1. Yes  2. No

160. Do you consider yourself to be an introvert
   1. Yes  2. No

161. Have you ever read scripture during a service
   1. Yes  2. No

162. How long does it take you to learn a new song:
   1. I can sight read it the first time
   2. I can sing it after I hear it one time
   3. I can sing it after I hear it two times
   4. It takes me more than two times hearing it to learn a new song

163. Did you take private voice lessons
   1. Yes  2. No

164. Have you ever been in any type of musical group
   1. Yes  2. No

165. At what age were you baptized,
   1. Under 12  2. 13 to 14  3. 15 to 18  4. 18 or over  5. I am not baptized

166. Do you prefer learning by reading a textbook or listening to an instructor
   1. Read a book  2. Listen to an instructor

167. Were you active in your youth group
   1. Yes  2. No

168. Did you ever participate in a preaching competition (such as lads to leaders)
   1. Yes  2. No

169. Do you mind leaving a task half done
   1. Yes  2. No

170. Have you ever taught a lesson in bible school
   1. Yes  2. No
171. Do you try to agree with people when your ideas differ
   1. Yes  2. No

172. Would you prefer to spend an evening reading a book or with several of your friends
   1. Reading a book  2. Spend time with friends

173. Have you ever had more than one job at a time
   1. Yes  2. No

174. Were you shy as a teenager
   1. Yes  2. No

175. Did you take algebra in high school
   1. Yes  2. No

176. Do you make "to do lists"
   1. Yes  2. No

177. Are any of your brothers ministers
   1. Yes  2. No

178. Was/is your father a deacon
   1. Yes  2. No

179. Are you an only child
   1. Yes  2. No

180. Do you find the stories behind why songs were written to be interesting
   1. Yes  2. No

181. Are either of your parents musical
   1. Yes  2. No

182. Was your father a minister
   1. Yes  2. No

183. Have you ever taken a class on philosophy
   1. Yes  2. No

184. Have you ever led singing at church
   1. Yes  2. No

185. Were you a part of an active youth group
   1. Yes  2. No

186. Do you wait for several dishes to wash them or do you wash them as soon as you are done with them
   1. Yes  2. No

187. Do you feel a need to please everyone
   1. Yes  2. No

188. Have you ever preached a sermon
   1. Yes  2. No

189. Did you ever participate in a song leading competition (such as lads to leaders)
   1. Yes  2. No

190. Are you familiar with the term shape notes
   1. Yes  2. No
191. When you prepare for a test, do you study consistently for several days of cram the night before
   1. Spread it out over several nights  2. Cram the night before

192. Do you make grocery lists
   1. Yes  2. No

193. Do you enjoy small talk
   1. Yes  2. No

194. Do you exercise regularly
   1. Yes  2. No

195. Were/are you a member of any extra curricular music group
   1. Yes  2. No

196. Did you take calculus in high school
   1. Yes  2. No
## Appendix C

**Items with significant correlations with scoring sample and in Final Version of the Instrument**

<table>
<thead>
<tr>
<th>Item</th>
<th>Structured Scale</th>
<th>Musical Scale</th>
<th>Other Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did you enjoy music classes in school</td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>2. Do you get nervous when you are speaking to a group</td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>3. Do you enjoy studying subjects where experts cannot agree on what is correct</td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>4. Have you ever given the comments at the Lord's Supper</td>
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<td>+</td>
</tr>
<tr>
<td>5. Did you take private instrument lessons</td>
<td></td>
<td></td>
<td>- +</td>
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<tr>
<td>6. Have you ever been in a singing group</td>
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<tr>
<td>7. Do you receive any scholarships because of your field of study</td>
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<td>+</td>
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<tr>
<td>8. Can you read music</td>
<td></td>
<td></td>
<td>+</td>
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<tr>
<td>9. Do you feel anxious when you have to speak in public</td>
<td></td>
<td></td>
<td>+</td>
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<tr>
<td>10. Do you enjoy studying mathematics</td>
<td></td>
<td></td>
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<tr>
<td>11. Was your Grandfather a minister</td>
<td></td>
<td></td>
<td>+</td>
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<tr>
<td>12. Is your father a singer</td>
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<tr>
<td>13. Did you work on your high school/college newspaper/yearbook</td>
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<td>14. Do you keep a folder of your previous financial statements</td>
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<tr>
<td>15. Were you in chorus in school</td>
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<td>16. Can you read shape notes</td>
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<tr>
<td>Item</td>
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<td>Musical Scale</td>
<td>Other Scale</td>
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<tr>
<td>17. How many years have you been in some sort of Chorus</td>
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<tr>
<td>1. None 2. 1 to 4 3. 4 to 8 4. 8 to 12 5. More than 12</td>
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<tr>
<td>18. Did you enjoy science in school?</td>
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<tr>
<td>19. Is your mother a good singer</td>
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<td>1. Yes 2. No</td>
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<tr>
<td>20. Which teacher did you like more your music teacher in high school or your biology teacher</td>
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<tr>
<td>1. Music Teacher 2. Biology teacher</td>
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<tr>
<td>21. Have you ever taught yourself a new skill</td>
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<tr>
<td>1. Yes 2. No</td>
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<tr>
<td>22. Have you ever tried writing music</td>
<td></td>
<td>-</td>
<td>+</td>
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<tr>
<td>1. Yes 2. No</td>
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<tr>
<td>23. Do you read your Bible every day</td>
<td></td>
<td></td>
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<td>1. Yes 2. No</td>
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<tr>
<td>24. Is your room neat and clean</td>
<td></td>
<td>+</td>
<td>-</td>
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<tr>
<td>1. Yes 2. No</td>
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<td>25. Do you enjoy studying Science</td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>1. Yes 2. No</td>
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<td>26. Were you on the debate team in high school</td>
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<td>1. Yes 2. No</td>
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<td>27. When studying the Bible, do you use outside sources (commentaries, expository dictionaries, etc).</td>
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<tr>
<td>1. Yes 2. No</td>
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<tr>
<td>28. How much time do you spend on average studying per day</td>
<td></td>
<td>+</td>
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<tr>
<td>1. Less than 1 hour 2. 1-2 hours 3. More than 2 hours</td>
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<tr>
<td>29. Have you ever started songs at a Deco</td>
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<td>+</td>
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<tr>
<td>1. Yes 2. No</td>
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<tr>
<td>30. Have you ever taken any kind of musical lessons</td>
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<td>+</td>
</tr>
<tr>
<td>1. Yes 2. No</td>
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<td>31. Are you familiar with the term &quot;Lydian mode&quot;</td>
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<td>-</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>32. Do you iron your clothes regularly</td>
<td></td>
<td>+</td>
<td>-</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>33. Has any one ever complimented you on your voice</td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>34. Did you enjoy biology</td>
<td></td>
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<td>1. Yes 2. No</td>
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<tr>
<td>Item</td>
<td>Minister Scale</td>
<td>Musical Scale</td>
<td>Other Scale</td>
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<td>---------------------------------------------------------------------</td>
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<tr>
<td>35. Can you follow the 7 fold Amen at the end of &quot;The Lord Bless You and Keep You&quot;</td>
<td>-</td>
<td>+</td>
<td></td>
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<tr>
<td>1. Yes  2. No</td>
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<td></td>
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<tr>
<td>36. Have you ever been asked to sing a solo</td>
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<td>+</td>
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<tr>
<td>1. Yes  2. No</td>
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<tr>
<td>37. Did you enjoy Physics</td>
<td>-</td>
<td>+</td>
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<tr>
<td>1. Yes  2. No</td>
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<tr>
<td>38. Do you read your Bible at least every other day</td>
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<td>+</td>
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<tr>
<td>1. Yes  2. No</td>
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<tr>
<td>39. Did you admire your Song Leader when growing up</td>
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<tr>
<td>1. Yes  2. No</td>
<td></td>
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<tr>
<td>40. Would you prefer a coworker who is a hard worker or one who is friendly</td>
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<td>-</td>
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<tr>
<td>1. Hard working  2. Friendly</td>
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<tr>
<td>41. Do you take an aggressive schedule of classes</td>
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<td>+</td>
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<tr>
<td>1. Yes  2. No</td>
<td></td>
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<tr>
<td>42. Are there more than 6 years separating any of your siblings from you and the rest of your siblings? For example, you are 18, you have one brother who is 16 and one sister who is 30</td>
<td></td>
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<tr>
<td>1. Yes  2. No</td>
<td></td>
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<tr>
<td>43. Do you prefer to study for a test by yourself or with a group</td>
<td></td>
<td>+</td>
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<tr>
<td>1. By myself  2. With a group</td>
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<tr>
<td>44. How long does it take you to learn a new song:</td>
<td></td>
<td>-</td>
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</tr>
<tr>
<td>1. I can sight read it the first time</td>
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<tr>
<td>2. I can sing it after I hear it one time</td>
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<td></td>
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<tr>
<td>3. I can sing it after I hear it two times</td>
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<tr>
<td>4. It takes me more than two time hearing it to learn a new song</td>
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<tr>
<td>45. Did you take private voice lessons</td>
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<td>+</td>
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<tr>
<td>1. Yes  2. No</td>
<td></td>
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<tr>
<td>46. Have you ever been in any type of musical group</td>
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<td>-</td>
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<tr>
<td>1. Yes  2. No</td>
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<tr>
<td>47. Did you ever participate in a preaching competition (such as lads to leaders)</td>
<td></td>
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<tr>
<td>1. Yes  2. No</td>
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<tr>
<td>48. Was/is your father a deacon</td>
<td></td>
<td>+</td>
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<tr>
<td>1. Yes  2. No</td>
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<tr>
<td>49. Was/is your father a minister</td>
<td>-</td>
<td>+</td>
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<tr>
<td>1. Yes  2. No</td>
<td></td>
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</tr>
<tr>
<td>Item</td>
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<td>Other Scale</td>
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<tr>
<td>----------------------------------------------------------------------</td>
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<td>50. Have you ever taken a class on philosophy</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
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<tr>
<td>51. Have you ever led singing at church</td>
<td>-</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>52. Have you ever preached a sermon</td>
<td>+</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>53. Did you ever participate in a song leading competition (such as lads to leaders)</td>
<td>-</td>
<td>+</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
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<tr>
<td>54. Are you familiar with the term shape notes</td>
<td>+</td>
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</tr>
<tr>
<td>1. Yes 2. No</td>
<td></td>
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<tr>
<td>55. Were/are you a member of any extra curricular music group</td>
<td>-</td>
<td>+</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
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</tbody>
</table>

Note. Indicates a negative correlation (p < .05) between the item and the respective group. + indicates a positive correlation (p < .05) between the item and the respective group.
Appendix D
Items with significant correlations with scoring sample and in Abbreviated Version of the Instrument

<table>
<thead>
<tr>
<th>Item</th>
<th>Minister Scale</th>
<th>Musical Scale</th>
<th>Other Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did you enjoy music classes in school</td>
<td>-</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>2. Do you get nervous when you are speaking to a group</td>
<td>+</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>3. Do you enjoy studying subjects where experts cannot agree on what is correct</td>
<td>-</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>4. Have you ever given the comments at the Lord’s Supper</td>
<td>+</td>
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</tr>
<tr>
<td>1. Yes 2. No</td>
<td></td>
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<tr>
<td>5. Did you take private instrument lessons</td>
<td>-</td>
<td></td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<td>6. Do you receive any scholarships because of your field of study</td>
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<tr>
<td>1. Yes 2. No</td>
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<td></td>
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<tr>
<td>7. Can you read music</td>
<td>-</td>
<td>+</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>8. Do you feel anxious when you have to speak in public</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
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<td></td>
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<tr>
<td>9. Do you enjoy studying mathematics</td>
<td></td>
<td></td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>10. Was your Grandfather a minister</td>
<td>+</td>
<td></td>
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</tr>
<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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<tr>
<td>11. Is your father a singer</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1. Yes 2. No</td>
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<tr>
<td>14. Can you read shape notes</td>
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<td>+</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15. Did you enjoy science in school?</td>
<td>-</td>
<td>+</td>
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<tr>
<td>1. Yes 2. No</td>
<td></td>
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<tr>
<td>16. Is your mother a good singer</td>
<td></td>
<td></td>
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<tr>
<td>1. Yes 2. No</td>
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<td></td>
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</tbody>
</table>
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   1. Hard working  2. Friendly

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   +
   1. Yes  2. No

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   1. Yes  2. No

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   1. By myself  2. With a group

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   1. Yes  2. No

41. Was/is your father a deacon
   1. Yes  2. No

42. Was/is your father a minister
   1. Yes  2. No

43. Have you ever taken a class on philosophy
   1. Yes  2. No

44. Have you ever led singing at church
   1. Yes  2. No

45. Have you ever preached a sermon
   1. Yes  2. No