

MMPI-2 Characteristics of Seminary Students in Korea

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Mental health professionals have always been interested in assessing personality and psychopathology in order to understand and offer effective treatments to diverse human difficulties. Such interests resulted in the development of numerous assessment tools including the Minnesota Multiphasic Personality Inventory (MMPI).¹ Hathaway and McKinley in the United States developed the MMPI during the 1940s to assess psychopathology in medical settings (Graham, 2006). It soon became one of the most widely used assessment tools in the field of psychology and psychiatry. In 1989, a revised edition of the MMPI was published which strengthened the normative data and item contents. The MMPI and MMPI-2 have been extensively researched and translated into many languages around the world (Butcher, 2004; Butcher, Lim, & Nezami, 1998; Butcher, Derksen, Sloore, & Sirigatti, 2003). In addition to the original purpose of the clinical symptom assessment in medical settings, the utility of the MMPI-2 has been extended to other settings and populations. Outpatient mental health and forensic settings, and special groups such as substance-abusing and prison populations are some examples. MMPI and MMPI-2 are also used in personnel screenings although there is much fewer publications in this area (Butcher,

1. The MMPI is a personality assessment instrument originally developed to provide appropriate psychological diagnostic labels for hospital patients. Since the original MMPI was published in 1943, its revision, MMPI 2, was published in 1989 with broadened utility and strengthened quality. The MMPI 2 is composed of 567 statements. Participants respond with “true” for statements that apply to them and “false” that do not apply to them. The results are considered in several scales: the basic or clinical scales, the validity scales, content scales, supplementary scales, RC scales, and Psy-5 scales. The validity scales measure the test-taking attitude of participants. The basic or clinical scales are composed of areas of personality and/or psychopathology and measured against the normative data which represent the general population. The content and supplementary scales assist the clinical scales. RC and Psy-5 are most recently added scales and currently receive much attention for its usage and effectiveness.

Derksen, Sloore, & Sirigatti, 2003). Furthermore, Christian institutions and organizations utilize MMPI and MMPI-2 particularly in selecting missionary and clergy candidates (Cardwell, 1996; Dillon, 1983; Schubert & Gantner, 1996). Overall, MMPI and MMPI-2 are widely used and valued as a personality assessment tool.

In Korea, MMPI-2 was published in 2005 following the guidelines of cross-cultural adaptation by the test publisher, the University of Minnesota Press (Han, et al. 2006; Kim, et al. 2005). Prior to the publication of MMPI-2, the first edition of MMPI was used for many decades. Korean MMPI-2 is standardized based on the 2000 national census data according to age, educational level, residence areas, and residence characteristics. With an exception of adults over 70 years of age, the sample population used to develop the MMPI-2 normative data reported to represent the general population fairly well. MMPI-2 studies continue to be conducted and published in Korea. Besides mental health professionals, many Christian institutions, such as mission organizations and seminaries in Korea, currently utilize MMPI-2.

However, studies of MMPI-2 with Korean Christians are very limited. Not only is the normative data for any religious group not available, but also studies specific to the Christian population seem scarce. Although it is not necessary to obtain normative data for specific groups in order to use MMPI or MMPI-2, professionals who administer MMPI-2 for missionaries, clergies, and/or seminary students may wonder about its effectiveness regarding a specific population. Those who study may wonder how their results compare with others who share the same religious beliefs and commitments. It would be important to examine if a religiously committed group shares certain personality characteristics significantly different from the general population. Based on the strong clinical utility of widely accepted MMPI and MMPI-2, a significant deviance from the norm warrants further examination and explanation. As an attempt to provide a norm for Korean seminary students, this study will first review studies related to MMPI and MMPI-2 on Christian groups and then describe personality characteristics of the students enrolled in a specific evangelical seminary in Korea as they are measured by MMPI-2.

MMPI/MMPI-2 and Christian Population

Studies in the USA

In comparison to the great number of literature available for MMPI and MMPI-2, studies specific to the Christian population is very limited. Earlier studies used MMPI and more recent studies used MMPI-2. In this study, the details of each scale will omitted.

Sullender (1993) examined MMPI profiles of clergy candidates. As a whole, clergy candidates scored: (1) about 1 SD higher than the general population in K, Hy, Do, Re, O-H, St, Fi, and Es scales; (2) about 1/2 SD higher in Pd, Pa, Pt, Sc, and Ma scales; (3) more than 1 SD lower in Pr, CYN, and A scales; and (4) about 1/2 SD lower in Si, Dy, and MAS scales. Overall, Sullender reported that clergy candidates showed less negative emotions such as anxiety and depression. They also demonstrated the capacity to take responsibility in their daily lives and leadership roles. He further reported that the clerical group was more concerned about getting approval from others than the general population. They showed tendency to avoid interpersonal conflicts and their own negative feelings. Male candidates were reported to have more difficulty managing feelings of anger than female candidates. The males also tend to show more sensitive and feminine characteristics than most men in the general population. Gender and age differences among the clergy group were not very significant.

Dillon (1983) reported characteristics of evangelical missionaries using MMPI. On the one hand, evangelical missionaries as a whole scored higher than the norm in L, K, Hy, Mf, Pa (males), Si (males), Hs, Pd, Pt, Sc, Ma (males), Es, and Do. On the other hand, they received lower scores in F, Hs, D (females), Pd, Pt, Sc, Ma, Dy, and Cn scales. Scales D (males), Pa (females), and Si (females) scores were not significantly different from the norm. Dillon did not describe the extent of the differences, but reported that the average missionary experienced greater difficulty and tended to present themselves in a more favorable light than the norm. He further compared missionaries who fulfilled their commitment as missionaries with those who resigned from their commitment as missionaries. Significant group differences were found in L, F, Pt, and Cn scales. Missionaries who fulfilled their commitment as missionaries had lower L and higher F, Pt, and Cn scores than those who did not fulfill their commitment as missionaries. Missionaries who fulfilled their commitment were more honest about themselves and more worried, but maintained more control than those missionaries who failed to fulfill their commitment. . In a double-blind study, MMPI results alone were found to predict missionary performance with 69% accuracy (Schubert & Gantner, 1996). When checked against some MMPI criteria, failed missionaries scored significantly different from the successful missionaries. Those criteria included: (1) having two clinical scales, sub-scales, or research scales above 65 (39%); (2) ego strength scale below 55 (31%); (3) K scale above 65 (26%); (4) Pd scale above 65 (24%); (5) greater than 8 critical items (23%); (6) Ma scale above 65 (20%); (6) Hy scale above 65 (14%); and (7) any two clinical scales above 65 (14%). Although MMPI alone may not be a sufficient tool

in missionary screening, it may be very valuable when combined with other assessment data.

Cardwell (1996) examined MMPI-2 norms of seminary students of Christian Theological Seminary (CTS). In comparison to MMPI, she found that the average of seminary students' MMPI-2 scores were closer to the general population. However, there were some differences. Male seminary students scored (1) about 1 SD higher in O-H; (2) 1/2 SD higher in K and Mf; (3) Do, Re, and Es; and (4) 1/2 SD lower in F, Si, A, and MAC-R. Female seminary students scored (1) about 1 SD higher in K; (2) 1/2 SD higher in O-H, Do, Re, and Es; (3) 1/2 SD lower in A and MAC-R. Content scale scores reported to be lower than the norm. Overall, seminary students were well-adjusted. However, male and female seminary students appeared to not express feelings of anger appropriately.

More recently, Duris, Bjorck, and Gorsuch (2007) raised a question about the validity of the L scale for Christians based on the earlier reports that Christians scored higher in the L scale than the general population. The L scale is intended for identifying those who would not admit to minor weaknesses in order to present oneself in a more favorable light. Their study confirmed that their sample of Protestant Christians scored differently in some items of the MMPI-2 L scale than the general population. Duris et al. concluded that committed Christians failed to interpret some items as they were intended to measure for the general population. Instead, the committed Christians judged the items according to their Christian values. For example, denying one's desire to talk behind a friend's back could be considered as lying for the general population, with an assumption that the general population is likely to engage in such behavior at times. However, the committed Christian, believing that talking behind a friend's back is un-Christian, would rather strive to maintain an honest relationship. Thus, the same item could be perceived in light of Christian values, and confirmation or disconfirmation of such an item could involve their personal identity as Christians. Their answer would have more to do with their Christian values than with their efforts to present themselves in a favorable light. For this reason, Duris et al. suggested to reevaluate the interpretation of L scale for the Christians.

MacDonald and Holland (2003) compared college students who regularly participated in religious activities with those who were not involved in religious activities. They found that college students who participated in religious activities were more likely to score lower on MMPI-2 D, Pd, Pa, Pt, and Sc scales, and less likely show clinical symptoms than those who were not involved. A positive relationship between spirituality and general mental health was supported. In another study,

religiosity was found to correlate with MMPI D, Hy, Pd, Mf, Sc, and F scales for both men and women (Bohrnstedt, Borgatta, & Evans, 1968). Both male and female religious groups, regardless of their religious affiliations, scored lower in the F scale than non-religious groups. The Protestant group scored the lowest among the religious groups. In addition, both male and female Protestant Christians and Catholics scored lower in MMPI D, Hy, and Mf scales than the non-religious group. Female Protestant Christians and Catholics also scored lower in Pd, Pa, and Sc scales while male Protestant Christians scored lower in Pd and Sc scales than the non-religious group. Male Protestants and Catholics received lower scores in the L scale, while female religious groups did not differ from the non-religious group. Overall, spirituality or religiosity is reported to have a significant relationship with lower MMPI/MMPI-2 scores in general.

Studies in Korea

Currently, published journal articles are lacking on the research of MMPI and MMPI-2 and the Christian population in Korea. However, there appears to be a few number of master's theses related to MMPI. One such study examined the seminary students' MMPI scores with the Korean norm (Kim, 2005). In this study, Kim showed that male seminary students scored higher in K and lower in F, D, Pd, Pa, Pt, Sc, Ma, and Si than the norm. They reported to be an outgoing and well adjusted group of people without significant difficulties. For the participating female seminary students, the results were similar. They scored higher in K and lower in F, D, Mf, Pa, Pt, Sc, and Si. They are also reported to be outgoing and well adjusted and either hold traditional gender roles or possess interests that are typically associated with both genders. For both groups, the greatest difference is found in the F and the K scales which marked more than 1 SD. This would mean that these seminary students reported themselves to be confident and have no difficulties that are significantly more than the general population. Kim's study also compared seminary students by gender, age, and major focus of the study (i.e., theology, Christian education, Religious Music, and etc.). No significant difference between the male and female students was found.

MMPI-2 and Korean Seminary Students

This study examined the MMPI-2 results of Korean seminary students in a non-denominational evangelical seminary in Seoul. Korean MMPI-2 scores of 175 male and 232 female seminary students were used to compare with the norm. The students took MMPI-2 as a part

of admission process from 2006 to 2009. MMPI-2 Validity and Clinical scale K-corrected T score means and standard deviations of male and female student groups are presented in Table 1.

The MMPI-2 uses T score which is characterized with the mean of 50 and standard deviation (*SD*) of 10. About 70% of the general population's T scores fall between 40 and 60. All male students' clinical scales, and all, except one, female students' clinical scales fall within that percentage of 70. There are several scales with at least a $1/2$ *SD* difference from the norm. A $1/2$ *SD* or more difference between groups would be considered significant enough to warrant further attention. Validity scales, F and K, for both male and female students showed difference of about 1 *SD* from the general population. Seminary students' F scores were 1 *SD* lower, and K scores were about 1 *SD* higher than the norm. For a non-clinical population, such as seminary students, a low F scale score suggests an indication of a denial or minimization of psychological problems (Graham, 2006; Kim, et al., 2005). However, the elevated K scale score is within a valid range of 40-64 and may indicate that seminary students have balanced views of themselves.

Table 1:
**MMPI-2 Validity and Clinical Scale T-score Mean
and Standard Deviation of Korean Seminary Students**

Scales	Male (n=175)		Female (n=232)	
	M	SD	M	SD
L	53.58	9.83	51.53	8.3
F	37.53	3.4	38.26	3.91
K	60.49	8.69	58.62	8.35
Hs	45.51	5.13	44.53	5.93
D	43.67	5.1	42.61	6.85
Hy	47.55	5.63	46.82	6.27
Pd	45.03	6.93	45.59	7.01
Mf	52.31	8.29	39.54	7.87
Pa	44.74	5.07	45.59	5.51
Pt	43.27	5.1	42.19	5.63
Sc	43.05	4.48	41.62	4.3
Ma	46.34	6.86	47.18	6.97
Si	42.69	8.90	41.27	9.04

For male seminary students, Clinical scale scores fall below the average general population with an exception of the Mf scale. About 1/2 SD difference is found in scales Hs, D, Pd, Pa, Pt, Sc, and Si. Similarly, female students' Hs, D, Pd, Pa, Pt, Sc, and Si scores are lower than the general population by about 1/2 SD. The biggest difference is found in the Mf scale which showed 1 SD lower than the general population. A low Mf scale for female seminary students may indicate that they have traditional feminine interests or may be more androgynous. Seminary students as a whole demonstrated less clinical symptoms. They are well-adjusted, experience less negative emotions, and seem to be more sociable and outgoing than the norm.

In Content scales, all scores are lower than the general population: (1) ANX, DEP, HEA, CYN, APS, LSE, WRK, and TRT scores are more than 1 SD lower for both male and female students; (2) about 1/2 SD lower in FRS, OBS, BIZ, TPA for both male and female students; (3) about 1 SD lower in ANG and FAM for male students; and (4) about 1/2 SD lower in ANG and FAM for female students. This indicates that both male and female students reported to have less difficulty with anxiety, depression, anger, self-esteem, work or family than the general population. As found in the clinical scale scores, content scores show seminary students are well-adjusted. Both male and female seminary students' introversion and/or shyness seem not to be significantly different from the norm as a group.

In Supplementary scales, Es, Do, Re, GM, and GF scores are about 1 SD higher than the general population for both male and female seminary students; about 1/2 SD higher in O-H; 1 SD lower in A, Mt, PK, MDS, Ho, AAS; 1/2 SD lower in MAC-R for both male and female students; and 1/2 SD lower in APS for male students (Table 2). This may indicate that as a group, seminary students are well-adjusted and possess more capacity to handle stress in their lives than the general population. In addition, both male and female seminary students seem to possess typical traits associated with both gender groups. They also seem not to be punitive. They do not express angry feelings more overtly than the general population. In the scales that measure specific areas of difficulties related to anxiety, trauma, marital relationships, addiction, and hostility, seminary students possessed lower marks than the general population. This result implies that seminary students do not report problems in these specific areas.

Table 2:
MMPI-2 Supplementary Scale T-score Mean
and Standard Deviation of Korean Seminary Students

Scales	Male (n=175)		Female (n=232)	
	M	SD	M	SD
A	37.71	6.82	38.47	7.26
R	53.66	7.31	51.93	7.22
Es	59.62	6.33	59.96	8.09
Do	58.39	7.41	58.58	6.43
Re	61.57	8.03	59.72	8.25
Mt	36.41	7.13	37.42	7.05
PK	37.34	5.9	37.4	6.15
MDS	38.76	7.09	40.72	6.95
Ho	38.29	7.15	40.02	7.96
O-H	55.83	7.93	55.04	8.41
MAC-R	41.41	6.97	42.87	7.0
AAS	38.18	4.91	40.46	4.8
APS	44.98	9.65	47.21	9.74
GM	58.88	7.8	59.60	9.74
GF	57.69	7.04	59.07	6.51

Discussion

One of the strengths of MMPI-2 is the capacity to check the test validity with several Validity scales. Self-report assessment tools rely heavily on how one approaches the assessment: One may over-report or under-report his or her problems. If they under-report their problems, the results of MMPI-2 do not accurately reflect their true level of psychological functioning and personality characteristics. When people are seeking jobs or admission to college programs, they tend to under-report their problems (Graham, 2006). In this study, MMPI-2 was administered as a part of admissions process to a seminary. The validity of MMPI-2 must be cleared in order to draw meaningful conclusions about the characteristics of Korean seminary students.

Graham (2006) provides an L scale T score of 60 and above, an F scale T score of 39 and below, and a K scale T score of 65 and above to indicate defensiveness, minimizing problems and emphasizing positive characteristics in non-clinical settings. Similarly, the Korean MMPI-2

manual provides an L scale T score of 65 and above, an F scale T score of 39 and below, and a K scale T score of 65 and above for a defensiveness approach to test-taking (Kim et al, 2005). Scales of L and K, and the L+K criteria are reported as effective measurements in identifying those who minimize and under-report their problems (Baer & Miller, 2002; Baer & Sekirnjak, 1997; Lim, 2001). In experimental conditions, cut-off scores of 59 and 61 for the L scale, 54 and 55 for the K scale, 24 for L+K resulted in detecting over 80% of those who under-report. In real life settings, however, cut-off scores of 65 for L and/or K scales were used to determine defensiveness in several studies (Baer & Miller, 2002). As recommended by Graham, professionals must consider the importance of identifying defensive protocols in their own settings. If the higher cut-off scores are used to detect defensiveness, the likelihood to identify under-reporting protocols correctly increases at the cost of missing some of the actual under-reporting protocols. However, if the lower cut-off scores are used, the likelihood to identify all of the under-reporting protocols increases at the cost of misidentifying some protocols as under-reporting. For this study, following the suggested interpretive guide given by the Korean MMPI-2 manual seems reasonable considering no prior studies of validity with non-clinical population are available in Korea. Thus, use of the L scale T score of 65 and above, the F scale T score of 39 and below, and the K scale T score of 65 and above will be considered as indicatives of defensiveness.

As reported earlier, both male and female students' F ($T=37.53$ for males, $T=38.26$ for females) and K ($T=60.49$ for males, $T=58.62$ for females) scores are significantly different from the norm in this study. Cardwell's study (1996) with seminary students in the US also show similar patterns of elevated K and lowered F scale scores, but the extent of the differences from the norm appears less for American seminary students. Here, $1/2 SD$ difference is noted in both K and F scales for males and $1 SD$ elevation in the K scale only for females. The pattern of an elevated L and/or K scale and lowered F scale scores is observed in previous studies, but concerns related to the validity were not raised in prior studies. In this study, significantly lowered F scale scores and subsequent interpretive guide as defensive protocols seem to need further exploration. F scales are composed of items of diverse attitude, behaviors, and psychopathological symptoms that highly correlate with other scales of MMPI-2. High F scale scores above 65 indicate an over-reporting of the problems while scores below 40 are considered as under-reporting (Graham, 2006). The F scale is also a good measure if one attempts to "fake bad" ($T \geq 100$). As described, the recommended markers for the defensiveness are scales L and/or K, and the F scale alone did not receive research support to indicate defensiveness. However, scores of

L and K in this study do not indicate defensive protocols. Follow-up studies for the F scale with Korean MMPI-2 are recommended to better account for such low scores found in this study. In addition, this study yielded L scale scores within $1/2$ SD difference from the norm which do not require interpretation as under- or over-report, nor defensive. Therefore, the concerns of the L scale for Christians raised by Duris et al. (2007) were not replicated in this study. Korean seminary students did not receive high L scores and therefore do not require further consideration.

Based on the acceptable range of L and K scales, the following section will summarize the characteristics of Korean seminary students from this study. Korean seminary students in many aspects share characteristics of US seminary students and missionaries as reported in other American studies (Cardwell, 1996; Dillon, 1983). Overall, they are well-adjusted and do not experience emotional difficulties (D T=44, Pt T=43, ANX T=38, DEP T=37, A T=38 for males; D T=43, Pt T=42, ANX T=38, DEP T=38, A T=38 for females). They seem to possess internal resources to cope with difficulties in life (Es T=60 for both males and females), leadership potential and self-confidence (Do T=58 for males, T=59 for females), and a sense of responsibility and commitment to societal values (Re T=62 for males, T=60 for females). Also, Korean female seminary students may have traditional feminine interests or have adopted more androgynous life style than other Korean females (Mf T=40). Based on the characteristics described earlier and the high level of education, it is more likely that Korean female seminary students in this study are more androgynous than traditionally feminine. In addition, both male and female Korean seminary students appear not to express feelings of anger and/or impunities than the average Korean (O-H T=56 for males, T=55 for females). However, this does not mean that their overall level of anger is high (Ho T=38 for males, T=40 for females) or they have violent anger control problems. In general, Korean seminary students appear to be well-adjusted and possess many strengths in comparison to the general population.

In conclusion, one who utilizes Korean MMPI-2 with Christians may consider the results of this study with Korean seminary students. It would be invaluable to know that the average seminary student in Korea received markedly different scores in some scales. One of the scales that need further consideration is the F scale. For Christians, the F scale score, with a guided interpretation of potential defensiveness, may not necessarily reflect defensiveness. Characteristics of Korean seminary students found in the study should also be considered in the context of the seminary with no denominational affiliation. Further studies on other Christian institutions and organizations in Korea would enhance

the understanding of Christian characteristics. They can also determine the utility of MMPI-2 as a personality assessment tool.

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