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## Personality Traits of High School HOSA Officers

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## Personality Traits of High School HOSA Officers

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Abstract: The purposes of this study were, for "high school student officers of **HOSA**, to (a) measure personality trait characteristics, (b) describe sample norms for trait characteristics, (c) determine the typical personality preference, (d) determine personality preferences associated with various leadership positions, (e) develop normative descriptions, and (f) compare **personality** preferences associated with selected demographic variables. The samples included 115 HOSA officers **from** 27 schools in two districts in a southern state. The Myers-Briggs Type Indicator and a demographic questionnaire were used **to** collect **the** data. A typical student from the sample would be type indicated **as** Extroversion) Sensing/Feeling/Judging. Type indicators varied with officer position and **level** of service.

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According to **Brechtel**, Wright, and **Brechtel** (1982) "the number one national need facing America today is leadership" (p. 29). Potential leaders could very **well** be systematically developed in **local** high schools in honor societies, student councils, civic and service groups, social clubs, and in other student organizations which are integral components of the curriculum such as in Health Occupations Students of America (**HOSA**). However, research reports have indicated that leadership skills are not the only factor involved in becoming a leader in a youth organization (**Owings & Nelson, 1979**). Shaw (1971), for example, reported that personal characteristics **of** young members of organizations can exert a powerful influence on group processes. Other reports relevant to relationships between leadership and personality attributes suggest connections between them are, at best, unpredictable:

In 1969, **Fleishman** reported that leadership style as measured by structure and consideration **scales** on the Leadership Opinion Questionnaire (**LOQ**) correlated significantly with some personality measures and was related at only chance levels to others. Absence of correlations could indicate that the LOQ measures something different, while significant correlations could indicate possibilities **of** commonness with personality measures.

Kames (1984) reported that the High School Personality Questionnaire (not based on **MBTI**) did not discriminate between intellectually gifted students **who** were holding and not holding leadership positions. In studying HOSA officers at the high school **level**, Walters and **Wilmoth** (1988) found strong canonical variates relating leadership attributes from the LOQ to Myers Briggs Type

Indicator (MBTI) preferences, a relationship which should be helpful for student advisors interested in counseling student leaders. Leadership attributes of HOSA officers seemed to be **relationally** more tied to Extroversion/Introversion and Thinking/Feeling scores than to either the Judging/Perceptive scores of Sensing/Intuition scores.

Benedetti (1977) found that student leaders in youth organizations more often exhibited personality characteristics related to extroverted, intuitive, and feeling types as measured by a standardized personality instrument. Leaders in the Benedetti study, moreover, were characterized as enjoying problem solving, and as handling people with tact and sympathetic understanding; and they preferred **public** contact over paperwork.

**Owings** and Nelson (1979) in studying student officers in Future Farmers of America found that (a) 72.1% were classified as being extroverted, (b) **68.0%** were classified as being sensing rather than intuitive, (c) a higher proportion of state **officers were** classified as being intuitive than were chapter officers, (d) **62.6%** were classified as being feeling rather than thinking, and (e) 59.9% were classified as being judging rather than perceptive individuals.

Perhaps unpredictability in relationships **between** leadership and personality attributes is a function of mismatching instruments, scales, or norms to subjects. It may also be an artifact of sample-size unbalances between leaders and non-leaders in the populations and samples measured. The current study addresses these possible shortcomings through use of instruments having potential for discriminating between personality attributes of known leaders in one curriculum area of

secondary education, and through investigating statistical attributes at three levels: (a) for the sample as a unified group; (b) for sub-groups composed of subjects having similar leadership positions; and (c) for sub-groups serving at similar levels--local; local **and** state; and local, state, and national.

#### Need for the Study

Leadership behavior as indicated by Owings and Nelson (1979) appears "to involve a particular combination of skills and certain personality traits. Because it occurs in a group, it is an interactional process, sensitive both to the group context . . . [and to] the personal characteristics of group members" (p. 40). Based on Jung's personality theory, Myers (1962) indicated that individuals seemed to differ in what they perceive and in their conclusions about what they perceive. Thus, it seemed likely that student leaders would systematically vary in both manifest behavior and inherent personality **dimensions** especially in the ways people use perception and judgment theorized by Jung (1971).

In addition, a better understanding of high school **HOSA** student leaders is needed for meeting future leadership challenges, especially a better understanding of personality dimensions or traits. Therein is the primary focus for this study.

#### Purposes of the **Study**

Recognizing the importance of understanding personality traits of potential leaders and currently elected leaders of **HOSA**, this study was undertaken to address the following question: What are the personality traits of currently elected HOSA officers in a southern state? Two of five districts were chosen as the sample representing the state

population. Measures of that sample were undertaken in support of six major objectives:

1. To measure trait characteristics for officers in local HOSA chapters,
2. To describe sample norms for trait characteristics of high school student officers of HOSA,
3. To determine the personality preference for a typical officer from a local HOSA chapter,
4. To determine the personality preferences of HOSA officers serving in various leadership positions,
5. To develop high school HOSA officer sample norms for MBTI Preference Scores. and
6. To determine if personality preferences of HOSA officers differ on the basis of selected demographic characteristics.

#### Methodology

##### Subjects

The subjects in this study consisted of two school districts which included 27 high schools in a southern state. The sample included 115 students enrolled in Health Occupations programs who were serving as HOSA officers.

##### Instrumentation

The instruments used to collect the information from the HOSA chapter officers included (a) a demographic questionnaire, and (b) the Myers-Briggs Type Indicator (MBTI) (Myers, 1962). Relevant data concerning the instruments are presented below.

The demographic questionnaire. The demographic questionnaire was developed by Walters, **Wilmoth**, and Pitts and included the following variables: (a) age, (b) grade level, (c) number of years in the health occupations program, (d) level(s) (local, state, national) of office as a HOSA officer, (e) office held at local level, (f) office(s) held in other student organizations, and (g) type of office held in other student organization **s**). Selected breakdowns of MBTI measures were based on contents of the demographic questionnaire.

The MBTI. The **MBTI** consisted of **166** developed items. From scoring templates these items produce values for eight traits: Extroversion (E), Introversion (**I**), Sensing (S), Intuition (N), Thinking (T), Feeling (F), Judging (J), and Perception (P). In all tabulated summaries of this report, the foregoing traits are presented in the order given using the accompanying abbreviations.

Pairs of traits were systematically combined into four bipolar scales of personality dimensions called preferences. Interpretations of the four preference scales as summarized by Leiden, **Veach**, and Herring (1986) include (a) the Extraversion/Introversion (**EI**) Scale which refers to preferences for either the external world of people and events or the internal world of concepts and ideas; (b) the Sensing/Intuition (**SN**) Scale which refers to preferred styles of information gathering, using either the five senses to gain facts or using intuition to determine possibilities or meanings represented by facts; (c) the Thinking/Feeling (**TF**) Scale which refers to decision-making styles in which preferred judgments are based on either perceived logical facts or on valued feelings; and (d) the Judging/Perceptive (**JP**) Scale which

indicates the preferred relationship with the external world, either organized and orderly or spontaneous and flexible. Each possible combination of preferences produces a Type Indicator. Thus there are 2<sup>4</sup> or 16 Type Indicators such **E/S/F/J** translated to be the personality type Extroversion/ Sensing/Feeling/ Judging.

Myers (1980) reported that **the MBTI** questions "... are not important in themselves, but they do indicate basic preferences that have far reaching effects . . . . They simply . . . produce different kinds of people who are interested in different things, are good in different fields and often find it hard to understand each other" (p. 1). Myers (1980) further suggested that understanding the type in particular can assist an individual to deal with problems and people in life as well as help in choosing a career.

Knowing individual end other preferences can assist a person to understand special strengths, kinds of work that a person can be successful doing, and how persons with different preferences can relate to one another and be valuable to society (Briggs & Myers, 1976). Through reference norms, one may further interpret preference scores.

MBTI Reliabilities. According to Myers (1962) the split-half reliabilities for the **MBTI** were obtained "by applying the **Spearman-Brown** prophecy formula to obtained correlations between halves" (p. 20). The coefficients ranged between .44 and .94. In various groups (both **male** and female) "the only coefficients below .75 . . . [were] for the underachieving 8th grade and non-prep 12th, and that ... the lowest values for these groups are on the **TF** (p. 20).



Myers indicated that a possibility existed for the relative uncertainty on **TF** to reflect lesser development of the judging process [than of the perceiving process]. Myers also suggested such differential development could prove to be a **significant** characteristic of samples that include junior **high**, senior high, and college level students.

#### Analysis of Data

SAS and SPSS<sup>7</sup> were the statistical packages of choice for transforming, scoring, and analyzing the raw data. Presentation of distribution attributes was determined by measurement properties of the respective variables. Algorithms, where possible, were implemented according to specifications of instrument authors. There was no attempt to generalize the findings to a population, therefore, no inferential statistics accompany the statistical tables. Absence of inferential statistics is particularly justified for the contingency **table** analysis for which theoretical frequencies required by statistical theory are small enough to violate supporting assumptions of the **chi-square** test.

Scores on the MBTI developed for this project were a modification of the scores centered on zero ordinarily presented for indexing preference strengths. For present research purposes the 4 preference scores (EI, **SN**, TF, and JP) were scaled by an alternate scoring algorithm described by Myers (1962) to designate a person's preferred personality characteristic on each of the 4 bipolar scales, with values larger than 100 indexing I, N, **F**, and P poles and values smaller than 100 indexing E, S, **T**, and J poles. The interpretation of a person's type facilitates an understanding of how that person perceives and orders events and reaches decisions. The results, should provide information so that a person **may**

have better knowledge of self in both personal and professional situations.

### Results and Discussion

Ninety-one percent of **the sample** were female; 87.8% were between 16-18 years of age; 85% were enrolled in the eleventh and twelfth grade; 82.7% reported a grade point average of B-C; 27% were enrolled for their first year in health occupations in their present school, while **63.5%** had been enrolled for two to three years; 115 had served as a previous HOSA officer; 50.4% had served as an officer in other student organizations as president (Table 1). By officer position, there were 16 (13.9%) Presidents (P), 25 (21.7%) Vice-Presidents (VP), 18 (15.7%) Secretaries (S), 15 (13.0%) Treasurers (T), 19 (16.5%) Historians/Reporters (H), and 22 (19.1%) other officers who were leaders in local HOSA chapters. The various levels of office included: (a) Local (L, n = 108), (b) Local and State (LS, n = 6) and Local, State, National (LSN, n = 6) levels (Table 2).

### Reliabilities for the Present Study

Reliabilities of both the Extroversion/Introversion Scale and the Judging/Perceptive Scale for the present sample were .86. The reliability for the Sensing/Intuition Scale was .76. Three reliabilities were computed for the Thinking/Feeling scaled scores: (a) the composite reliability was .76, (b) the reliability for females was .77, and (c) the reliability for males was .74. All reliabilities were of the inter-item consistency type computed under the REPEATED option of PROC GLM of SAS. Furthermore, **all** reliabilities were computed after adjusting for anchor points as recommended by Wirier (1971, pp. 289-293). There were no

Table 1

Demographic Data for Local HOSA Officers

Demographic Variables	N	%
Sex		
Male	<b>10</b>	8.7
Female	105	91.3
Age		
<b>15</b> years	14	12.2
16 years	33	28.7
<b>17</b> years	55	47.8
<b>18 or</b> over	13	11.3
Grade <b>Level</b>		
<b>9th</b> grade	2	<b>1.7</b>
10th grade	15	13.0
<b>11th</b> grade	37	32.2
12th grade	61	53.0
Grade Point Average		
B	<b>18</b>	15.7
c	<b>77</b>	67.0
<b>D</b>	20	<b>17.4</b>

Demographic Variables	N	%
Years <b>in</b> Health Occupations		
1st year	31	27.0
1 year	11	9.6
2 years	59	51.3
3 years	14	12.2
Previous HOSA Officer		
Yes	<b>115</b>	<b>100.0</b>
Officer <b>in</b> Other Student Organization		
Yes	58	50.4
No	57	49.6
Position in Other Student Organizations		
President	58	50.4

Table 2

Level of Office Held by HOSA Officers

Office	Level of Office					
	Local		State		National	
	N	%	N	%	N	%
President	16	13.9	-	-	-	-
Vice-President	25	<b>21.7</b>	1	14.3	1	<b>1.0</b>
Secretary	18	15.7	3	42.9	-	-
Treasurer	15	13.0	-	-	-	-
Historian/Reporter	19	16.5	3	42.9	-	-
Other	22	19.1	-	-	-	-

validating factor analyses during this study for the 166 MBTI items in measuring student officers of HOSA. Scale scores, rather, were computed according to standard scoring algorithms presented by Myers and converted to computer coding.

Table 3 summarizes trait characteristics for all officers in all local HOSA chapters. The raw data supporting Table 3 were derived from student responses to the MBTI; each student selection was converted to the number for that selection recommended by the instrument authors. For the Thinking and Feeling Traits, conversions of alphabetic responses were gender specific with different conversions applying to males than to females.

Of practical interest to the practitioner may be more descriptive detail about Table 4 than is contained in its headings. Each trait is designated as a separate variable, and for each variable data are provided for converting raw score values of the left-most first column into percentile values that are interpreted as for any test. The "Ct" columns represent the counts or numbers of HOSA student officers having the intersecting row raw score with the column variable or trait. The Cell % represents the corresponding percentage the Ct number is of the total number of cases. Table 4 thus describes sample norms for MBTI trait characteristics of the sample of high school student officers of HOSA. The reader should note that the percentile higher than the 99th appropriately is recorded as 99+.

Table 3

Distribution Characteristics of MBTI Trait Scores for the Sample of High School HOSA Officers (n=115, sum wgts = 115)

MOMENTS	VARIABLE								
	E	I	S	N	T	F	J	P	
MEAN	16.47	10.21	16.27	8.76	8.98	11.05	15.11	11.24	
STD MEAN	0.51	0.51	0.50	0.37	0.49	0.34	0.51	0.52	
STD DEV	5.48	5.51	5.35	4.02	5.27	3.70	5.46	5.54	
CV	33.27	53.97	32.90	45.92	58.63	33.47	36.12	49.23	
VARIANCE	30.02	30.36	28.65	16.17	27.74	13.68	29.80	30.64	
SKEWNESS	-0.060	0.360	<b>-0.219</b>	0.547	<b>1.08</b>	-0.137	-0.442	0.734	
KURTOSIS	-0.649	<b>-0.470</b>	-0.290	0.082	1.86	-0.716	0.036	0.650	
NUM = 0	115	114	115	115	115	115	115	115	
QUAN- %ile	TILE	E	I	S	N	T	F	J	P
<b>100</b>	MAX	<b>27</b>	25	27	21	30	1	28	28
99		26.8	24.8	26.8	20.7	29.2	18	27.4	7.8
95		25.2	20.2	25	15.2	19	17	24	22.2
90		24.4	17	23	14	15.4	16	21.4	17.4
<b>75</b>	Q3	21	15	20	<b>11</b>	12	14	<b>19</b>	15
50	MED	16	9	17	8	8	11	16	10
25	Q1	12	6	13	6	5	8	12	8
10		10	3	9	4	3	6	8	1
5		7	2	7.8	3	2	5	4	2.8
<b>1</b>		3.2	0.2	3	1.2	1	3	<b>1.2</b>	1.2
0	MIN	3	0	3	1	1	3	1	<b>1</b>
RANGE		24	25		20	29	15	27	<b>27</b>
<b>Q3-Q1</b>		9	9		5	7	6	7	7
MODE		11	8		7	5	13	14	8

Table 4

Conversion Table from Trait Scores to Percentiles for the Sample of High School HOSA Officers

Score Value	Variable											
	E			I			S			N		
	Ct	Cell %	% ile	Ct	Cell %	% ile	Ct	Cell %	% ile	Ct	Cell %	% ile
0				1	0.9	1						
1				1	0.9	2				1	0.9	2
2				7	6.1	8				2	1.7	3
3	1	0.9	1	5	4.3	12	2	1.7	2	7	6.1	9
4	1	0.9	2	6	5.2	17	2	1.7	4	5	4.3	13
5	1	0.9	3	4	3.5	21				13	11.3	24
6	1	0.9	4	8	7.0	28				6	5.2	30
7	2	1.7	5	8	7.0	35	1	0.9	4	15	13.0	43
8				9	7.8	43	4	3.5	8	13	11.3	54
9	2	1.7	7	9	7.8	50	3	2.6	10	7	6.1	60
10	6	5.2	12	8	7.0	57	3	2.6	15	10	8.7	69
11	10	8.7	21	3	2.6	60	3	2.6	17	8	7.0	76
12	9	7.8	29	5	4.3	64	7	6.1	24	6	5.2	81
13	6	5.2	34	7	6.1	70	7	6.1	30	7	6.1	87
14	4	3.5	37	5	4.3	75	1	0.9	39	6	5.2	92
15	7	6.1	43	7	6.1	81	6	5.2	44	4	3.5	96
16	9	7.8	51	6	5.2	86	5	4.3	49	1	0.9	96
17	9	7.8	59	6	5.2	91	12	10.4	59			
18	4	3.5	63	3	2.6	94	7	6.1	65	1	0.9	97
19	8	7.0	70	1	0.9	95	6	5.2	70	2	1.7	99
20	4	3.5	73	1	0.9	96	8	7.0	77			
21	4	3.5	76	2	1.7	97	7	6.1	84	1	0.9	99+
22	10	8.7	85	1	0.9	98	2	1.7	85			
23	3	2.6	88				7	6.1	91			
24	3	2.6	90	1	0.9	99	2	1.7	93			
25	6	5.2	96	1	0.9	99+	4	3.5	97			
26	4	3.5	99				3	2.6	99			
27	1	0.9	99+				1	0.9	99+			
28												
30												

(table continues)

Table 4 (continued)

Score Value	T			F			J			P		
	Ct	Cell %	% file	Ct	Cell %	% file	Ct	Cell %	% file	Ct	Cell %	% file
0												
1	3	2.6	3				1	0.9	1	1	0.9	1
2	6	5.2	8				2	1.7	3	4	3.5	4
3	7	6.1	14	3	2.6	3	1	0.9	3	2	1.7	6
4	6	5.2	19	1	0.9	4	3	2.6	6	2	1.7	8
5	11	9.6	29	4	3.5	7	1	0.9	7	5	4.3	12
6	10	8.7	37	8	7.0	14	1	0.9	8	7	6.1	18
7	7	6.1	43	4	3.5	17	1	0.9	9	7	6.1	24
8	8	7.0	50	9	7.8	25	4	3.5	12	13	11.3	36
9	8	7.0	57	13	11.3	36	4	3.5	16	9	7.8	44
10	11	9.6	67	10	8.7	45	5	4.3	20	10	8.7	52
11	7	6.1	73	9	7.8	53	1	0.9	21	7	6.1	58
12	7	6.1	79	8	7.0	60	6	5.2	26	4	3.5	62
13	6	5.2	84	14	12.2	72	9	7.8	34	6	5.2	67
14	3	2.6	87	10	8.7	81	10	8.7	43	8	7.0	74
15	4	3.5	90	7	6.1	87	8	7.0	50	5	4.3	78
16	2	1.7	92	7	6.1	93	10	8.7	58	8	7.0	85
17	1	0.9	93	5	4.3	97	7	6.1	64	6	5.2	90
18				3	2.6	99+	10	8.7	73	2	1.7	92
19	5	4.3	97				7	6.1	79	1	0.9	93
20							5	4.3	84	1	0.9	94
21							8	7.0	90			
22							1	0.9	91	2	1.7	96
23	1	0.9	98				4	3.5	95	1	0.9	96
24							5	4.3	99			
25	1	0.9	99									
26										2	1.7	98
27										1	0.9	99
28							1	0.9	99+	1	0.9	99+
30	1	0.9	99+									

Perhaps of greatest practical interest are findings characterizing the personality preference for a typical officer from the sample. Data to support such a characterization is presented in Table 5. From that table, on the basis of dominance in percentages of preference classifications, one would conclude that the E/I preference the better classification is Extroversion; for the S/I preference, Sensing is the better; for the T/F reference, Feeling is better than Thinking; and for

the **J/P** preference, the better classification is Judging. One therefore would search for students of Type-Indicator **E/S/F/J** as matching the Type-Indicator of students who tend to serve as officers in high school HOSA chapters. The reader should be cautioned that this characterization is based on a relatively small sample of officers in a limited geographic region in a southern state of 5 districts. **Still**, the relative dominance of preference types speaks for itself in the frequencies and percentage columns of Table 5. Examination of the data under more sensitive statistical designs should reveal the dominances even more clearly.

Table 5

Frequencies of MBTI Preference Classifications in the Sample of High School HOSA Officers

<b>MBTI CLASSIF</b>	<b>FREQ</b>	<b>PER CENT</b>	<b>MBTI CLASS IF</b>	<b>FREQ</b>	<b>PER CENT</b>
<b>SCORE 1</b>			<b>SCORE 2</b>		
Extrover	<b>80</b>	69.6	Intuition	28	24.3
<b>Introver</b>	35	30.4	Sensing	87	75.7
			<b>MBTI CLASSIF</b>	<b>FREQ</b>	<b>PER CENT</b>
			<b>SCORE 3</b>	<b>SCORE 4</b>	
			Feeling	67	58.3
			Thinking	48	41.7
			Judging	79	68.7
			Perception	36	31.3

Another problems anticipated for HOSA chapter advisors is associated with assignment or counseling of promising students to officer position or level of service. Table 6 presents a perspective on this issue in breaking down data by Office Type. Personality preferences are interpreted by relative dominance of one preference over another in the 4 pairs of rows of the 4 vertically separated subtables. For example, for



E/I preference for presidents in the first **subtable**, Extroversion appears to be more common, with 13 of 16 presidents being E's than Introversion with 3 of 16 presidents being I's.

Table 6

Frequency and Percentage Breakdowns of Preference Classifications

by Type of Office at Local Level (Frequency/Percent)

**SCORE1**

Pref Class	OFFICE TYPE						TOTAL
	Pres	V-Pres	Secty	Treas	Hist	Other	
<b>E</b>	<b>13</b> 11.30	<b>18</b> 15.65	11 9.57	<b>11</b> 9.57	<b>11</b> 9.57	<b>16</b> 13.91	so 69.57
<b>I</b>	<b>3</b> 2.61	<b>7</b> 6.09	7 6.09	4 3.48	8 6.96	6 5.22	35 30.43
<b>TOTAL</b>	<b>16</b> 13.91	<b>25</b> 21.74	18 15.65	<b>15</b> 13.04	<b>19</b> 16.52	22 19.13	115 100.0

**SCORE2**

Pref Class	OFFICE TYPE						TOTAL
	Pres	V-Pres	Secty	Treas	Hist	Other	
<b>S</b>	<b>11</b> 9.57	<b>21</b> 18.26	<b>14</b> 12.17	13 11.30	12 10.43	16 13.91	<b>87</b> 75.65
<b>N</b>	<b>5</b> 4.35	<b>4</b> 3.48	4 3.48	2 1.74	7 6.09	6 5.22	28 24.35
<b>TOTAL</b>	<b>16</b> 13.91	<b>25</b> 21.74	18 15.65	15 13.04	<b>19</b> 16.52	22 19.13	<b>115</b> 100.0

(table continues)

**SCORE3**

Table 6 (continued)

Pref Class	OFFICE TYPE						TOTAL
	Pres	V-Pres	Secty	Tress	Hist	Other	
T	<b>4</b> 3.48	<b>12</b> 10.43	<b>11</b> 9.57	5 4.35	6 5.22	10 8.70	<b>48</b> 41.74
F	12 10.43	<b>13</b> 11.30	7 6.09	10 8.70	13 11.30	12 10.43	67 58.26
TOTAL	16 13.91	.25 <b>21.74</b>	18 15.65	15 13.04	19 16.52	22 19.13	115 100.0

**SCORE4**

Pref Class	OFFICE TYPE						TOTAL
	Pres	<b>V-Pres</b>	<b>Secty</b>	Tress	<b>Hist</b>	Other	
J	<b>10</b> 8.70	18 15.65	16 13.91	9 7.83	13 11.30	13 11.30	79 68.70
P	6 5.22	7 6.09	2 1.74	6 5.22	6 5.22	9 7.83	36 31.30
TOTAL	16 13.91	25 <b>21.74</b>	<b>18</b> 15.65	15 13.04	19 16.52	22 19.13	115 100.0

MBTI Preference Scores have a tradition of applications in serious research in the relatively wide range between adult and junior high populations. However, there has been limited study on its behavior in specific groups, such as groups of student officers of high school HOSA chapters. In research applications, pairs of traits composing the same preference continuum are relegated to a common scale. Those scales with their attendant statistical properties are reported in Table 7 and should be interpreted in a manner analogous to Table 3. Having pairs of scores

Table 7

Distribution Characteristics of M8TI Continuous Scores for Traits of  
 High School **HOSA** Officers (n=115, sum wgts = 115)

MOMENTS	VARIABLE			
	Score1	Score2	Score3	Score4
MEAN	87.09	87.26	104.30	<b>91.89</b>
STD MEAN	2.08	1.62	1.65	2.09
STD DEV	22.36	17.43	17.75	22.38
CV	25.68	<b>19.98</b>	17.01	24.36
VARIANCE	500.03	303.83	314.95	501.00
SKEWNESS	0.248	0.157	-0.621	0.609
KURTOSIS	<b>-0.612</b>	<b>0.182</b>	0.220	0.236
NUM ^= 0	<b>115</b>	<b>115</b>	<b>115</b>	115
QUAN- %ile TILE	Score1	Score2	Score3	Score4
100 MAX	143	137	133	155
99	142.4	136.4	133	154.0
95	129.4	<b>114.2</b>	129.4	138.2
90	113.8	107	127	<b>119</b>
<b>75 Q3</b>	107	99	<b>119</b>	105
50 <b>MED</b>	85	89	107	87
25 <b>Q1</b>	<b>67</b>	75	93	<b>77</b>
10	57.4	64.2	<b>81</b>	64.2
5	53	58.2	<b>68.6</b>	57
1	46.0	46.3	47.9	46.6
0 <b>MIN</b>	<b>45</b>	45	45	<b>45</b>
RANGE	98	92	88	<b>110</b>
<b>Q3-Q1</b>	40	24	26	28
MODE	89	<b>91</b>	<b>121</b>	79

keyed to the same continuum presents a certain parsimony to statistical analyses for complex research designs, therefore Table 7 has decided potential application in future designs involving leadership attributes of health occupations students. Four bipolar dimensions, as reductions for 8 separate scales, reduce demands for analyses and interpretations sufficiently that the table is of more than theoretical interest.

For reasons continuing from the foregoing an active researcher would be interested in the mechanism for converting raw continuous data scores for K8TI preferences into distributional concepts for high school HOSA officers. That mechanism is supplied as Table 8. Its interpretation is analogous to Table 4, except in Table 8 there is a raw score (Scr) column for each preference dimension (**Score1, Score2, etc**) instead of a common column raw score as in Table 4. This difference is due to the fact that the different Score columns in Table 8 are keyed to different observed raw values while for Table 4 there was a common set of values.

Table 8  
Conversion Table from Continuous Scores to Percentiles for the Sample of High School HOSA Officers

Variable											
Score1			Score2			Score3			Score4		
Scr	Ct	Cell % ile	Scr	Ct	Cell % ile	Scr	Ct	Cell % ile	Scr	Ct	Cell % ile
45	1	0.9	1	45	1	0.9	1	45	1	0.9	1
51	3	2.6	4	53	2	1.7	3	63	2	1.7	3
53	4	3.5	7	55	2	1.7	4	67	2	<b>1.7</b>	4
55	3	2.6	10	59	1	0.9	5	69	1	0.9	5
59	5	4.3	14	61	1	0.9	6	71	1	0.9	6
61	1	0.9	15	63	4	3.5	10	73	<b>1</b>	0.9	7
63	4	3.5	18	65	3	2.6	12	81	4	3.5	10
65	2	1.7	20	67	5	4.3	16	83	2	1.7	12
<b>67</b>	6	5.2	25	69	3	2.6	19	85	1	0.9	13
<b>69</b>	1	0.9	26	71	2	1.7	21	87	3	2.6	16
71	1	0.9	27	73	2	<b>1.7</b>	23	89	4	3.5	19
73	3	2.6	30	75	5	4.3	27	91	6	5.2	24
<b>75</b>	5	4.3	<b>34</b>	77	2	<b>1.7</b>	29	93	5	4.3	29
77	2	<b>1.7</b>	36	79	3	2.6	31	95	5	4.3	33
79	5	4.3	40	81	6	5.2	36	97	6	5.2	38
<b>81</b>	<b>6</b>	5.2	45	83	4	3.5	40	99	4	3.5	42
83	3	2.6	<b>48</b>	85	4	3.5	44				
85	3	2.6	50	87	7	6.1	50				
87	1	0.9	51								
<b>89</b>	7	<b>6.1</b>	57								

3

(table continues)

Table 8 (continued)

Variable															
Score1				Score2				Score3				Score4			
Scr	Ct	Cell	%	Scr	Ct	Cell	%	Scr	Ct	Cell	%	Scr	Ct	Cell	%
			ile				ile				ile				ile
91	3	2.6	60	89	6	5.2	55	103	3	2.6	44	95	4	3.5	62
<b>93</b>	5	4.3	<b>64</b>	91	9	<b>7.8</b>	66	<b>105</b>	4	3.5	48	<b>97</b>	6	5.2	67
95	3	2.6	67	93	6	5.2	68	107	5	4.3	52	99	2	1.7	69
<b>97</b>	3	<b>2.6</b>	<b>70</b>	95	3	2.6	70	109	5	4.3	56	103	5	4.3	73
<b>101</b>	1	0.9	70	97	5	<b>4.3</b>	75	111	5	4.3	61	105	3	2.6	76
103	2	1.7	72	99	1	0.9	76	113	6	5.2	66	107	1	0.9	76
105	2	1.7	74	101	5	4.3	80	115	4	3.5	70	109	<b>4</b>	3.5	80
<b>107</b>	<b>4</b>	3.5	77	103	5	4.3	<b>84</b>	117	6	5.2	75	111	2	1.7	82
109	7	<b>6.1</b>	84	105	4	3.5	88	119	5	<b>4.3</b>	79	113	2	<b>1.7</b>	84
111	1	0.9	84	107	4	3.5	91	121	8	7.0	86	115	1	0.9	84
113	7	6.1	90	109	2	<b>1.7</b>	93	123	2	1.7	88	<b>117</b>	5	4.3	89
115	2	1.7	92	<b>111</b>	2	1.7	95	125	2	1.7	90	119	3	2.6	91
117	2	1.7	94	113	1	0.9	96	127	3	2.6	92	121	1	0.9	92
121	1	0.9	95	<b>119</b>	1	0.9	96	129	4	3.5	96	123	1	0.9	93
129	1	0.9	96	125	1	0.9	97	<b>131</b>	2	<b>1.7</b>	<b>97</b>	133	1	0.9	94
131	2	1.7	97	129	1	0.9	98	133	3	2.6	99+	135	1	0.9	95
135	1	<b>0.9</b>	98	133	1	0.9	99					<b>137</b>	1	<b>0.9</b>	96
<b>139</b>	1	0.9	99	<b>137</b>	1	0.9	99+					143	1	0.9	96
143	<b>1</b>	0.9	<b>99+</b>									147	2	<b>1.7</b>	98
												<b>149</b>	1	0.9	<b>99</b>
												155	1	0.9	99+

Advisors at state and national levels may be interested in MBTI preferences of officers at their respective levels of advising and in how those officers compare with each other and with officers at local levels. Table 9 addresses those issues. Again, because of a **small** sample size, particularly at the national level, caution is urged in interpreting the table. The state numbers are not as limited as national, but are too small for high confidence in the distribution patterns. **On** the other hand, it should be remembered that the **districts** sampled were randomly selected to avoid introduction of sampling bias thereby improving confidence in representativeness of the sample. The reader may note

inversions in S/N classes of Score2 and J/P classes of Scorch for comparisons between officers serving at local versus local and state levels.

Table 9

Frequency and Percentage Breakdowns of Preference Classifications

by Level of Office (Frequency/Percent)

SCORE1				
Pref Class	HOSA OFFICE			TOTAL
	Local	Local, State	Local, State, Nat	
E	75 65.22	<b>4</b> 3..48	1 0.87	80 69.57
I	33 28.70	2 <b>1.74</b>	0 0.00	35 30.43
TOTAL	108 93.91	6 5.22	1 0.87	115 100.0

SCORE2				
Pref Class	HOSA OFFICE			TOTAL
	Local	Local, State	Local, State, Nat	
S	<b>84</b> 73.04	<b>2</b> <b>1.74</b>	1 0.87	87 75.65
N	24 20.87	4 3.48	0 0.00	28 24.35
TOTAL	108 93.91	6 5.22	1 0.87	115 100.0

SCORE3				
Pref Class	HOSA OFFICE			TOTAL
	Local	Local, State	Local, State, Nat	
T	45 39.13	2 1.74	<b>1</b> 0.87	48 <b>41.74</b>
F	63 54.78	4 3.48	0 0.00	67 58.26
TOTAL	108 93.91	6 5.22	1 0.87	115 100.0

SCORE4				
Pref Class	HOSA OFFICE			TOTAL
	Local	Local, State	Local, State, Nat	
J	77 <b>66.96</b>	<b>2</b> <b>1.74</b>	0 0.00	79 68.70
P	<b>31</b> 26.96	4 3.48	<b>1</b> 0.87	36 31.30
TOTAL	108 93.91	6 5.22	1 0.87	115 100.0

**Table 10** presents another demographic comparison of **MBTI** preference classifications. In that table the Preference classes between HOSA officers who have and have not served as officers in other organizations are presented. The focus in Table 10 is on inversions in distribution patterns between pairs of columns within **subtables**. Inversions do not **occur** therefore the reader may conclude, as far as the present sample is concerned, that the **MBTI** attributes of EOSA officers are similar in attribute pattern between those students serving and not serving as officers in other organizations. There is no justification from the data for a claim that HOSA officers as a component of officers (in general) at the high school **level** do not differ from the others in **MBTI** attributes. Comparisons of that sort await another more broadly based study.

#### Conclusions and Recommendations

Research has indicated that leadership is the number one national need in America today. Recognizing this need and understanding that leadership behavior appears to involve a combination of known styles and skills and certain personality traits provided the rationale for conducting this study with 115 currently elected HOSA chapter officers serving in leadership positions and who, as such, are potential future leaders.

**MBTI** Preference Scores have been applied to a number of research situations involving subjects whose maturities range from junior high school to adult. Thus, the rationale for use of the **MBTI** to investigate personality traits of HOSA officers.

Table 10

Frequency and Percentage Breakdowns of Preference Classifications

by Service as Officer in Other Student Organizations (Frequency/Percent)

SCORE1				SCORE2			
Pref Class	OFFICE IN OTHER ORGN			Pref Class	OFFICE IN OTHER ORGN		
	Yes	No	TOTAL		Yes	No	TOTAL
E	<b>45</b> 39.13	35 30.43	80 69.57	s	<b>44</b> 38.26	43 37.39	87 75.65
I	13 11.30	22 19.13	<b>35</b> 30.43	N	14 12.17	14 12.17	28 24.35
<b>TOTAL</b>	58 50.43	57 49.57	115 100.0	<b>TOTAL</b>	58 50.43	57 49.57	<b>115</b> 100.0

  

SCORE3				SCORE4			
Pref Class	OFFICE IN OTHER ORGN			Pref Class	OFFICE IN OTHER ORGN		
	Yes	No	TOTAL		Yes	No	TOTAL
T	24 20.87	24 20.87	48 <b>41.74</b>	<b>J</b>	<b>41</b> <b>35.65</b>	<b>38</b> <b>33.04</b>	<b>79</b> <b>68.70</b>
F	<b>34</b> <b>29.57</b>	<b>33</b> <b>28.70</b>	<b>67</b> <b>58.26</b>	P	17 14.78	19 16.52	<b>36</b> <b>31.30</b>
<b>TOTAL</b>	<b>58</b> <b>50.43</b>	<b>57</b> <b>49.57</b>	<b>115</b> <b>100.0</b>	<b>TOTAL</b>	58 50.43	57 49.57	115 100.0

The typical HOSA officer in the current sample was a female with age ranging between 15 and 18 years, enrolled in the eleventh or twelfth grade. All 115 officers had served as a previous HOSA officer and 50.4% previously had served as a president in another student organization.

Possibly of greatest practical interest are findings characterizing the personality preferences of a typical HOSA officer. Approximately



69.6% were classified as Extroversion, which probably means the officers can relate more easily to the outer world of people and things than to the inner world of ideas. Approximately **75.7%** were classified as Sensing which probably means the officers would rather work with known facts than look for possibilities and relationships. Approximately 58.3% were classified as Feeling, which probably means the officers base their judgments more on personal values than on impersonal analysis and logic. Finally, approximately **68.7%** were classified as Judging which probably means the officers prefer a planned, decided, orderly way of life rather than a flexible, spontaneous way.

The characteristics frequently associated with this type : ndicator (E/S/F/J), are warm-heartedness, talkativeness, popularity, conscientiousness, (inborn) cooperativeness, and activeness in committee memberships. Those so indicator typed may need, and may foster, harmony. They are frequently involved in doing something nice for someone and appear to work best when encouragement and praise are provided. This type usually has very **little** interest in abstract thinking or technical subjects. Their main interest appears to be in things that directly and visibly may affect lives of other people.

It appears that a HOSA advisor would tend to search for students of Type-Indicator "E/S/F/J" as matching the type of students who tend to serve as officers in high **school HOSA** chapters. These same characteristics were also reported from a study (**Owings & Nelson, 1979**) conducted with 149 (109 chapter officers and 38 state officers) randomly selected Future Farmers of America (**FFA**) attending leadership training conferences at the National FFA Center. One difference in the findings

reported for the **FFA** study and the present HOSA study was that the 38 state FFA officers were best characterized as Intuitive (more problem oriented and more inclined to work at **the** abstract level) rather than Sensing. However, advisors should be cautioned **that** both studies involved small samples.

Another within HOSA finding suggests Vice-Presidents, in comparison with Presidents, in larger proportions exhibited the Extroversion trait, the Sensing trait, the Thinking trait, and the Judging trait. Further, for two traits there were inversions in proportions when broken down by whether the **HOSA** officers had served as an officer in another student organization: The inversions occurred for **Introversion and Perceptive** with proportions in both traits for the No service level exceeding the Yes.

Further studies are recommended for more extensive exploration of personality traits of HOSA members. A more general knowledge of trait characteristics can possibly assist advisors in counseling students. In addition, leadership styles and personality traits should be evaluated as a basis for organizing leadership training workshops and other leadership experiences for students.

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