Personalities of Landscape Company Managers and Landscape Horticulture Graduates are Similar

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SUMMARY. The personalities in a population of landscape horticulture graduates at a 2-year technical college were found to be similar to those in a population of landscape company managers. However, the personalities of the landscape company managers do differ from those in a general population of college students in terms of their information acquisition, decision making, and lifestyle preferences. The typical landscape company manager in the population surveyed was found to be a 41-year-old male with a bachelors degree. This individual had been employed in the occupation for 20 years, worked ≥ 41 hours per week, and rated job satisfaction as high.

Understanding personality types can be helpful to students attending college in such areas as improving study skills, developing interpersonal skills, setting goals, and learning to appreciate personality differences and diversity. Therefore, the topic of personality types is included in a required orientation course at Ohio State University Agricultural Technical Institute (Ohio State ATI), an associate degree technical college with an enrollment of ≈ 900

students. The Myers-Briggs Type Indicator (MBTI; Consulting Psychologists Press, Palo Alto, Calif.) is used as the vehicle for helping students learn about personality types. It has been administered on a voluntary basis to incoming Ohio State ATI students since 1991. Students are given their results during an orientation class period devoted to the topic of personality types.

Understanding the concept of personality types has value beyond the campus. As an example, it has been documented (Myers et al., 1985) that personality types have an important effect on the occupational preferences of individuals. Individuals differ in the way they think and work. People are naturally drawn to occupations that they find are interesting, motivating, and personally fulfilling. As a consequence certain types will predominate, although individuals with a variety of personality types will be present in any occupational area.

In its role as a technical college, Ohio State ATI offers a number of career-oriented majors. One of the largest of these programs is landscape horticulture, with an enrollment of ≈ 100 students. This program is oriented primarily to preparing students for careers in landscaping. Most of the graduates find employment at landscape companies with the ultimate goal of reaching the position of manager.

The MBTI results could be useful in providing career guidance to students and helping them prepare for career success in the industry. The MBTI information provided to landscape horticulture students would be even more relevant if the personality-type profile of a population of landscape company managers could be obtained.

A literature search revealed no previous MBTI studies of landscape company managers. Therefore, a survey of selected members of a state landscape association was conducted to determine the MBTI type profile and obtain certain demographic information.

Based on survey results and information obtained from the MBTI data bank for Ohio State ATI students, the authors completed the MBTI study reported in this article, which 1) compares the landscape horticulture graduates' results with those for the landscape company managers, 2) compares the landscape company managers' re-

sults with those for a general population of college students, and 3) discusses the implications of the results in terms of education and career-related issues.

Brief overview of the MBTI

The MBTI is an instrument based on the work of Swiss psychiatrist Carl Jung and was developed over a 20-year period by Isabel Myers and Katherine Briggs (Myers and McCaulley, 1985). Personality types are characterized by four pairs of letters with a total of 16 possible combinations (MBTI types). The four pairs are designated by the following letter combinations which represent MBTI preferences: E or I (extroversion vs. introversion), an indication of the manner in which a person is energized; S or N (sensing vs. intuitive), an indication of the way a person prefers to receive information; T or F (thinking vs. feeling), an indication of the manner in which a person prefers to make decisions; and J or P (judging vs. perceiving), an indication of how individuals prefer to live their lives. Readers interested in a more detailed explanation of the MBTI are referred to Johnson et al. (1994), Provost and Anchors (1987), Myers and McCaulley (1985), and Lawrence (1982).

Sources of MBTI data for comparisons

Given the problems of reaching and testing representative samples with any written questionnaire, true type distribution for any population may never be known (Myers and McCaulley, 1985). In addition, given that the MBTI is descriptive rather than prescriptive in nature, the personality type which represents the best fit for some of the individuals who complete the instrument will not be the same as the reported type. It is important that these factors be kept in mind when using MBTI in comparative studies such as the one reported in this article.

The survey described later in this article was used to obtain MBTI data for the population of landscape company managers. As stated earlier, a data base of MBTI results for Ohio State ATI students who matriculated between 1991 and 1997 is maintained on campus. Using this source, the

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authors were able to find MBTI results for 45 of the 89 landscape horticulture students who graduated between spring quarter 1993 and spring quarter 1997.

MBTI data for various representative populations are available from the Center for Applications of Psychological Type (CAPT), Gainesville, Fla. This organization has a detailed data bank (Macdaid et al., 1986), which the authors used as the source of MBTI data for the population of college students to which the landscape company managers were compared.

Materials and methods

SURVEY BACKGROUND. Members of the Ohio Nursery and Landscape Association were selected for participation in the survey. Membership in this association is open to all firms and persons engaged in the nursery or landscape business. Surveys were sent to the managers of all landscape firms with category 1 or 2 membership; that is, companies with a gross sales volume of \$750,000 or more. These two categories were selected because these larger sized companies are more likely to have the management positions that are the long-term career goal of most landscape horticulture graduates.

SURVEY METHOD AND PROCEDURE. Survey materials were sent to managers of the 107 association firms selected and included the following: a cover letter and instructions, the MBTI Form G question booklet, the MBTI Form G answer sheet, and a stamped return envelope for the return of all materials. In addition to completing the MBTI instrument, participants were asked to complete six sections on the answer sheet dealing with demographic information.

Participants who were interested in obtaining their MBTI results at a later date were asked to identify themselves, others were asked to respond anonymously. Individuals who did not wish to complete the survey were asked to return all blank materials. Follow-up telephone calls were made to those who did not return either the completed or blank materials ≈ 3 weeks after the initial mailing of the survey.

STATISTICAL ANALYSIS. MBTI data were analyzed using the Selection Ratio Type Table (SRTT), a PC software program available from CAPT (Granade et al., 1987). SRTT determines the probability of differences in

the distribution of the following (each referred to as a cell in the table produced as a result of the statistical analysis) for a sample population compared to a base population:

- 1) the 16 MBTI types (ISTJ and ENTP are examples);
- 2) the E-I, S-N, T-F, and J-P preference pairs;
- 3) a number of subgroups based on any two of the preferences (ST and NJ are examples).

This program uses chi-square (or Fisher's exact probability if cell frequencies are ≤ 5) to determine if differences between values in the two populations are significant at the $p < 0.05$, 0.01, or 0.001.

The variable used to indicate differences in the two populations is the selection ratio. If the ratio is > 1.00 , there is a greater observed frequency in that cell of the table than expected when compared to the base population. Likewise, if the ratio is < 1.00 , there is a less observed frequency than expected.

Results and discussion

A total of 40 completed MBTI answer sheets were received from the population of 107 landscape company managers surveyed for a response rate of 37%. Most of respondents also completed the demographic section of the survey. Results of the demographic information obtained from the survey are listed in Table 1.

As shown in Table 1, the managers are predominantly male, females made up only 10% of the survey respondents. The ages of most (77%) of the managers were in the 30 to 39 and 40 to 49 year ranges and fairly evenly distributed in each of these two decades. Average and median ages were 41 and 39 years respectively. The respondents were well educated, with 92% having attended college. Most (64%) of the managers held college degrees, with the bachelors (54%) degree predominating. The time that the respondents had spent in the landscaping industry ranged from one to five decades, with 87% having worked in this occupation between 10 and 29 years. Both the average and median time employed in the industry were 20 years. The survey revealed that the 96% of the landscaping company managers worked ≥ 41 h per week. The managers rated job satisfaction as high, 50% of the respondents were very satis-

fied and 50% were somewhat satisfied with their employment position.

MBTI RESULTS. The MBTI type composition of the landscape company manager population based on survey results is listed in Table 2. The MBTI type composition of the landscape horticulture graduate population which was obtained from a data bank of MBTI results for Ohio State ATI students is also shown.

Most (64%) of survey respondents held college degrees and an additional 28% had some college experience. It has been documented (Myers and McCaulley, 1985) that the educational level of sampled populations has an effect on the S versus N preferences. Therefore, the authors chose to use the CAPT data for college students as the general population to which the

Table 1. Demographics of landscape company managers who completed the survey.

Parameter	Percent
Gender	
Female	10
Male	90
Age (years)	
20-29	10
30-39	41
40-49	36
50-59	8
60-69	5
Average = 41	
Median = 39	
Education level	
High school	8
Some college	28
Associate	10
Bachelors	54
Masters/professional	0
Years employed in current occupation	
1-9	8
10-19	37
20-29	50
30-39	0
40-49	5
Average = 20	
Median = 20	
Work hours per week	
1-29	2
30-40	2
41+	96
Job satisfaction	
Very satisfied	50
Somewhat satisfied	50
Somewhat dissatisfied	0
Very dissatisfied	0

landscape company managers were compared. The MBTI type composition for this population is also included in Table 2. The MBTI type composition numbers in Table 2 provide the data that is entered into the SRTT statistical program for the comparison of the MBTI characteristics of the various populations. The SRTT output consists of a table of ratios calculated for 1) the 16 MBTI types, 2) the E-I, S-N, T-F, and J-P preference pairs, and 3) a number of preference subgroups. The SRTT output also indicates if the ratio is statistically significant.

LANDSCAPE HORTICULTURE GRADUATES COMPARED TO LANDSCAPE COMPANY MANAGERS. When the MBTI type composition for the landscape horticulture graduate population was compared to that for landscape company manager population, no significant differences were found between the two populations with the exception of two minor preference subgroupings. This indicates that the MBTI profile for the landscape horticulture graduates is similar to that of the managers. Therefore, the discussions concerning the personality types of the landscape company managers that appear later in this

article also apply to the landscape horticulture graduates.

LANDSCAPE COMPANY MANAGERS COMPARED TO A GENERAL POPULATION OF COLLEGE STUDENTS. The results of this comparison are shown in Table 3 and indicate that the manager population has high ratios for S (1.34, significant at $P < 0.01$) and for T and J (1.67 and 1.58 respectively, significant at $P < 0.001$).

A very high percentage (90%) of survey respondents are male. The CAPT data base for college students consists of only 46% males. It has been documented (Myers and McCaulley, 1985) that gender differences exist in the T vs. F preferences. Therefore, the results for the 36 male landscape company managers in the sample group were compared to CAPT data for male college students. The results of this comparison are shown in Table 4 and indicate that the J ratio remains high at 1.62 (significant at $P < 0.001$), but that the S ratio drops somewhat to 1.38 (significant at the .01 level). As expected the ratio for T dropped, although at 1.27 it is still significant at $P < 0.05$.

The high ratio for S is not surprising given that the work performed by

landscape company managers requires attention to details and careful observation. People who prefer the S perception like to use the five senses to become aware of things, people, occurrences, and ideas. These individuals tend to focus on the immediate experience and often develop characteristics associated with this awareness such as realism, acute powers of observation, memory for details, practicality, and an application orientation.

The high ratio for T is also predictable given the requirements of the manager position. People with a preference for the T judgment prefer to organize and structure information in a logical and often impersonal manner when drawing conclusions or making decisions. Those with a preference for T tend to rely heavily on the principles of cause and effect, linking ideas, numbers, and physical objects together and making logical choices.

The high ratio for J is an interesting result. People who prefer the J attitude tend to use a judging process for dealing with the outer world and typically are organized, purposeful, and decisive. They like to plan their work and work their plan. Individuals with a preference for J like a structured envi-

Table 2. Myers-Briggs Type Indicator (MBTI) compositions for the landscape company manager and Ohio State Agricultural Technical Institute (ATI) landscape horticulture graduate populations and a general population of college students.

MBTI ¹	Landscape company managers N = 40		Ohio State ATI landscape horticulture graduates N = 45		General population of college students ² N = 27156	
	No.	%	No.	%	No.	%
ISTJ	6	15	9	20	2573	9.5
ISFJ	3	8	7	16	2352	8.7
INFJ	0	0	1	2	885	3.3
INTJ	2	5	0	0	997	3.7
ISTP	2	5	1	2	1216	4.5
ISFP	0	0	1	2	1351	5.0
INFP	0	0	2	4	1495	5.5
INTP	0	0	0	0	1142	4.2
ESTP	0	0	5	11	1257	4.6
ESFP	2	5	2	4	1767	6.5
ENFP	0	0	2	4	2496	9.2
ENTP	1	3	1	2	1363	5.0
ESTJ	16	40	10	22	2879	10.6
ESFJ	3	8	2	4	2875	10.6
ENFJ	1	3	1	2	1309	4.8
ENTJ	4	10	1	2	1199	4.4
Female	4	10	6	13	14519	53.5
Male	36	90	39	87	12637	46.5

¹Source: Macdaid et al., 1986.

²E = extroversion, S = sensing, T = thinking, J = judgement I = introversion, N = intuitive F = feeling, P = perception.

ronment and prefer finishing one project before beginning another. They are quick to make decisions, using what information is available or can readily be obtained.

As indicated in Table 4, the high ratios for S, T, and J also result in significantly higher ratios for the ESTJ type and several preference subgroups which include various combinations of S, T, and J. S-T-J people tend to be practical, realistic, and matter of fact; they are typically detail-oriented and very organized. The STJs typical approach to a problem is to logically analyze the facts, move quickly to decision making, and then plan and carry out the identified solution. These people usually have a high energy level for doing things which are pragmatic, logical, useful, and structured.

The respondees are clearly different from typical male college students in their preference for S, T, and J. These preferences serve the landscape company managers well, allowing them to capitalize on their natural strengths towards the practical, applied, and structured nature of their work. However, it is important that these individuals learn to understand the con-

cepts of personality types and develop and use their intuitive perception, feeling judgment, and perceptive attitude to enhance their work performance and improve their supervisory skills.

Conclusions

The MBTI has been used in the orientation course at Ohio State ATI as an important device to help students understand and appreciate personality differences and diversity with emphasis on the learning process and classmates. The results of this study indicate that the MBTI personality characteristics of the population of landscape horticulture graduates is similar to that of the surveyed population of landscape company managers. Therefore, the personalities of the landscape horticulture graduates should serve them well as they assume management positions in the landscape industry.

When compared to a general population of college students, the landscape company managers were found to have significant differences in several MBTI personality preferences. The landscape company managers preferred to 1) use their senses instead of intuition to obtain new information,

2) emphasize logic more than feelings when making decisions, and 3) live ordered as opposed to flexible lives.

Workshops presented to landscaping company managers could be very effective in helping these individuals understand the concepts of personality types and use this knowledge to improve their work performance and supervisory skills. Likewise, the landscape horticulture graduates could benefit from advanced study of personality types as applied to the work environment and career success in one of their capstone landscape management courses.

The small number of females employed as landscaping company managers and in the landscape horticulture graduate population, 10% and 13%, respectively, are a major concern. Landscape contracting associations and college personnel involved in landscape horticulture programs need to investigate the reasons why there aren't more female graduates and managers. Based on the results, proactive efforts to increase the number of women who prepare for and are employed as landscape company managers should be implemented.

Table 3. Comparison of the Myers-Briggs Type Indicator (MBTI) characteristics of the landscape company manager population (N = 40) to a general population of college students (N = 27156).

MBTI type ²	Ratio ¹	MBTI preference	Ratio	MBTI preference	Ratio
ISTJ	1.58 ^{NS}	E	1.21 ^{NS}	IJ	1.10 ^{NS}
ISFJ	0.87 ^{NS}	I	0.73 ^{NS}	IP	0.26 [*]
INFJ	0.00 ^{NS}	S	1.34 ^{**}	EP	0.30 ^{**}
INTJ	1.36 ^{NS}	N	0.50 ^{**}	EJ	1.97 ^{***}
ISTP	1.12 ^{NS}	T	1.67 ^{***}	ST	2.06 ^{***}
ISFP	0.00 ^{NS}	F	0.42 ^{***}	SF	0.65 ^{NS}
INFP	0.00 ^{NS}	J	1.58 ^{***}	NF	0.11 ^{**}
INTP	0.00 ^{NS}	P	0.28 ^{***}	NT	1.01 ^{NS}
ESTP	0.00 ^{NS}			SJ	1.78 ^{***}
ESFP	0.77 ^{NS}			SP	0.49 ^{NS}
ENFP	0.00 [*]			NP	0.10 ^{**}
ENTP	0.50 ^{NS}			NJ	1.08 ^{NS}
ESTJ	3.77 ^{***}			TJ	2.49 ^{***}
ESFJ	0.71 ^{NS}			TP	0.41 ^{NS}
ENFJ	0.52 ^{NS}			FP	0.19 ^{**}
ENTJ	2.26 ^{NS}			FJ	0.64 ^{NS}
				IN	0.30 ^{NS}
				EN	0.64 ^{NS}
				IS	1.00 ^{NS}
				ES	1.62 ^{**}

²E = extroversion, S = sensing, T = thinking, J = judgement I = introversion, N = intuitive F = feeling, P = perception.

¹The ratio is calculated by dividing the sample population frequency value by the base population frequency value. For example, in Table 2 the ISTJ frequency values are 15% for the landscape company managers (sample population) and 9.5% for the college students (base population). Dividing 15 by 9.5 yields 1.58, which is the ratio shown for ISTJ. This means that the percentage of ISTJs in the landscape company manager population is 1.58 times the percentage in the college student population.

NS,*,***Nonsignificant or significant at $p < 0.05$ or 0.001 , respectively.

Table 4. Comparison of the Myers-Briggs Type Indicator (MBTI) characteristics of the male landscape company manager population (N = 36) to a general population of male college students (N = 12637)

MBTI type ^z	Ratio ^y	MBTI preference	Ratio	MBTI preference	Ratio
ISTJ	1.34 ^{NS}	E	1.30 ^{NS}	IJ	1.07 ^{NS}
ISFJ	1.02 ^{NS}	I	0.68 ^{NS}	IP	0.24 [*]
INFJ	0.00 ^{NS}	S	1.38 ^{**}	EP	0.35 [*]
INTJ	1.03 ^{NS}	N	0.47 ^{**}	EJ	2.16 ^{***}
ISTP	0.82 ^{NS}	T	1.27 [*]	ST	1.65 ^{**}
ISFP	0.00 ^{NS}	F	0.53 [*]	SF	0.86 ^{NS}
INFP	0.00 ^{NS}	J	1.62 ^{***}	NF	0.16 [*]
INTP	0.00 ^{NS}	P	0.30 ^{***}	NT	0.68 ^{NS}
ESTP	0.00 ^{NS}			SJ	1.92 ^{***}
ESFP	1.26 ^{NS}			SP	0.50 ^{NS}
ENFP	0.00 ^{NS}			NP	0.11 ^{**}
ENTP	0.41 ^{NS}			NJ	0.99 ^{NS}
ESTJ	3.25 ^{***}			TJ	1.98 ^{***}
ESFJ	1.02 ^{NS}			TP	0.31 [*]
ENFJ	0.93 ^{NS}			FP	0.28 [*]
ENTJ	1.44 ^{NS}			FJ	0.84 ^{NS}
				IN	0.28 ^{NS}
				EN	0.64 ^{NS}
				IS	0.96 ^{NS}
				ES	1.80 ^{**}

^zE = extroversion, S = sensing, T = thinking, J = judgement I = introversion, N = intuitive F = feeling, P = perception.

^yThe ratio is calculated by dividing the sample population frequency value by the base population frequency value. For example, the index for ISTJ is 1.34. This means that the percentage of ISTJs in the male landscape company manager population (sample population) is 1.34 times the percentage in the male college student population (base population).

NS,*,**,*Nonsignificant or significant at $p < 0.05$ or 0.001, respectively.

This study was limited to landscape horticulture graduates from only one technical college and landscape company managers who were members of only one state trade association. The results may not be representative of student populations at other colleges and the national population of landscape company managers. Therefore, further studies are needed which include MBTI profiles of landscape horticulture graduates from several colleges and landscape company managers who are members of national organizations.

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