

“More than 11% of students entering college are undecided about their academic major and career goals (ACT, 2001) . . . The Myers-Briggs Type Indicator® instrument is widely used as a decision-making aid in career counseling for undecided university students.”

## Relation of Psychological Type to Career Indecision Among University Students

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### ABSTRACT

We compared the type distribution of a large sample of undecided first-year university students to a national normative sample. Extraverted, Intuitive, and Perceiving types were overrepresented in the undecided student sample. Of the 16 types, ISTJs and ISFJs were underrepresented, and ENFPs and ENFJs were overrepresented in both the female and male undecided student samples. There were also several significant differences between the observed and expected distributions of MBTI® pairs. We discuss the counseling implications of these results.

### INTRODUCTION

Career indecision is a common problem among high school and college students. More than 11% of students entering college are undecided about their academic major and career goals (ACT, 2001). These students are frequent clients in university counseling and career centers. The Myers-Briggs Type Indicator instrument is widely used as a decision-making aid in career counseling for undecided university students.

There are three levels of MBTI interpretation (Hammer, 1996). Static interpretation involves matching personality characteristics with compatible work environments. For example, ESTJ students are informed that this type is common among school administrators

(Myers et al., 1998). Static interpretation is the most popular use of the MBTI instrument (Hammer).

The second level is dynamic interpretation, in which the counselor and client focus on the tension between Sensing and Intuition in gathering information and the tension between Thinking and Feeling in making decisions. The dynamic interpretation level is “used in examining the process by which the client explores and then decides on a career path” (Hammer, 1996, p. 33).

The third level of interpretation is developmental; it involves tracing the origins of type preferences and their potential developmental trajectories within different work environments over time. This type of interpretation is recommended for clients seeking midlife career counseling. Hammer (1996) persuasively argued that dynamic interpretations of MBTI results are underused in career counseling, and he encouraged the use of type profiles to enhance the decision-making process. It may be helpful, for example, to alert clients with Perceiving preferences to a tendency to spend an inordinate amount of time in career exploration, and/or to advise Intuitive clients that they need to gather more facts about the characteristics of their career options.

Counselors are constrained in their ability to provide dynamic interpretations, because limited information is available about the relation of type to decision making. Type theory can be used to conjecture, for example, that clients with Sensing and Judging preferences will seek premature closure of the career decision-making process. However, there remains the need for empirical study of the timing of academic and career decisions of the 16 MBTI types. The promise of providing dynamic interpretations of MBTI profiles in career counseling will remain unfulfilled until more empirical study of the relation of type to decision making is conducted. The purpose of this study was to provide normative information about career decision making by examining the type distribution of a substantial sample of undecided university students. Career counselors can use this information to provide dynamic interpretations to their clients.

**Type and Decision Making.** Predictions regarding the relations of type preferences to decision making

can be derived from type theory. Myers et al. (1998) described the INTJ, INFJ, ESTJ, ENTJ, and ESFJ types as decisive and the ESTP, ESFP, and ENTP types as likely to plunge into activities. It can be hypothesized that each of these eight types will tend to enter degree programs directly upon university enrollment and thus be underrepresented among undecided student populations. Type theory also suggests that two types may be likely to experience career indecision. Myers et al. wrote that ENFPs “see life as full of possibilities” (p. 64) and that ISFPs “prize the freedom to follow their own course, have their own space, and set their own time frame” (p. 91). These descriptions suggest that the ENFP and ISFP types will be overrepresented among undecided students.

A small number of empirical studies have examined type in relation to career indecision. Perceiving types consistently have been found to be less decisive than Judging types (DiRusso, Carney, & Bryan, 1995; Hammer, 1996). The empirical findings regarding the relations of the E–I, S–N, and T–F preferences and indecision are more equivocal (Hammer). The empirical literature only provides support for the hypothesis that Perceiving types will be overrepresented in a sample of undecided students.

The equivocal findings in the indecision literature may be caused by three methodological limitations on the studies generating these results. The first limitation is that researchers have included participants who were not truly undecided in their samples (e.g., Apostol, 1991). It is common for researchers to administer the MBTI tool and indecision measures to a convenience sample. Unfortunately, in a convenience sample the inclusion of students with clear career goals in a study of indecision is likely to obscure the results.

Second, some studies have examined samples with a common academic major, which results in a confound between the modal interests of the target population and indecision. For example, DiRusso et al. (1995) studied education majors. The researchers used a median split based on the summary score of an indecision measure to separate their sample into most and least decided groups and then studied the type distribution within each group. They found that the most

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decided students tended to be Extraverted. Although these results may indicate a correspondence between decidedness and Extraversion, they also may reflect the possibility that students who were most decided had the best match between their personality type and the Extraverted nature of the teaching profession, which reduced their career indecision. Do the DiRusso et al. findings reflect the relation of Extraversion to decidedness, or the salutary effects of person-environment match on decidedness? The only way to control for this confound is to ensure that decision-making study samples include students with heterogeneous interests.

The third limitation in studies of type and decision making is that women have been overrepresented, and separate analyses of male and female samples have not been conducted. It is not clear how results regarding the relation of type to indecision are affected by the fact that women are more likely than men to have an Extraverted attitude and to take a Feeling approach to decision making (Myers et al., 1998). Understanding of the relation of type preferences to indecision will be facilitated by the use of participant samples comprised of students who are (1) exclusively undecided, (2) heterogeneous in their career interests, and (3) both female and male. We incorporated these three methodological features into this study.

## METHOD

**Participants.** The 1,278 (634 female, 644 male) participants were first-semester university students enrolled over a 5-year period in an academic and career planning course for undecided students. Because none of the participants had declared an academic major at the time of the study, we designated these students as undecided. The average age was 18.46 ( $SD = 0.67$ ) for female participants and 18.59 ( $SD = 0.68$ ) for male participants. There were 1,137 (89.0%) Caucasian, 40 (3.1%) African American, 58 (4.5%) Asian American, 19 (1.5%) Hispanic, and 8 (0.6%) Native American participants. Sixteen (1.3%) students did not designate membership in a racial/ethnic group.

**Measure.** The participants completed Form M of

the MBTI. The alpha coefficients for the MBTI Form M continuous scores are: E-I = .91, S-N = .92, T-F = .91, and J-P = .92. The 4-week retest reliability coefficients for the MBTI Form M continuous scores are in the following ranges: E-I = .93–.95, S-N = .89–.97, T-F = .83–.94, and J-P = .90–.95 (Myers et al., 1998). These data indicate that the MBTI scales are internally consistent and stable over time. See Myers et al. for an overview of the extensive findings supporting the validity of the MBTI.

**Procedure.** The MBTI was administered to all participants in a career and academic planning course in which all students without a designated academic major were required to enroll. This course had four goals: (1) to provide students with feedback regarding their interests and personality characteristics, (2) to provide information about academic major options at the university and the world of work, (3) to provide a general university orientation, and (4) to build decision-making skills. The MBTI instrument was administered during the third week of each semester.

Type preferences on each of the four dichotomous scales were recorded from each participant's advising file. Because participant responses to each item were not available in the file, it was not possible to calculate the reliability properties for this data set.

## RESULTS

The statistical significance criterion was set at  $p < .01$  to reduce the Type I error risk that comes from conducting multiple tests of significance.

**Female Participant Findings.** Perceiving types were overrepresented in the undecided sample. (SEE TABLE 1, PAGE 14.) The Extraverted and Intuitive types were also overrepresented, whereas neither the Thinking nor Feeling types were overrepresented. Overall, these undecided students tended to be more Extraverted, Intuitive, and Perceiving than women in general.

The distribution of the 16 types is reported in TABLE 1. ISTJ, ISFJ, and ISFP types were underrepresented in the undecided sample, with Introverted and Sensing preferences common to each of the types underrepresented in the sample.

*It is not clear how results regarding the relation of type to indecision are affected by the fact that women are more likely than men to have an Extraverted attitude and to take a Feeling approach to decision making.*

**Table 1. Type Distribution of Undecided Female College Students and SRTT Comparisons With National Norms (Myers et al., 1998).**

$N = 634$  + = 1% of  $N$   $I$  = Selection Ratio Index \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

The Sixteen Complete Types				Dichotomous Preferences		
ISTJ $n = 26$ (4.1%) $I = 0.59^{**}$ + + + +	ISFJ $n = 50$ (7.9%) $I = 0.41^{***}$ + + + + + + + +	INFJ $n = 15$ (2.4%) $I = 1.45$ + +	INTJ $n = 7$ (1.1%) $I = 1.30$ +	E 435 (68.6%) *** $I = 1.31$	I 199 (31.4%) *** $I = 0.66$	
ISTP $n = 15$ (2.4%) $I = 1.01$ + +	ISFP $n = 43$ (6.8%) $I = 0.68^{**}$ + + + + + + +	INFP $n = 33$ (5.2%) $I = 1.12$ + + + + +	INTP $n = 10$ (1.6%) $I = 0.89$ + +	Pairs and Temperaments		
ESTP $n = 24$ (3.8%) $I = 1.26$ + + + + +	ESFP $n = 78$ (12.3%) $I = 1.22$ + + + + + + + + + + + +	ENFP $n = 142$ (22.4%) $I = 2.32^{***}$ + + + + + + + + + + + + + + + + +	ENTP $n = 17$ (2.7%) $I = 1.11$ + + +	IJ 98 (15.5%) *** $I = 0.54$	IP 101 (15.9%) $I = 0.85$	EP 261 (41.2%) *** $I = 1.64$
ESTJ $n = 31$ (4.9%) $I = 0.78$ + + + + +	ESFJ $n = 99$ (15.6%) $I = 0.92$ + + + + + + + + + + + + + + + +	ENFJ $n = 37$ (5.8%) $I = 1.79^{***}$ + + + + + +	ENTJ $n = 7$ (1.1%) $I = 1.21$ +	EJ 174 (27.4%) $I = 1.00$	ST 96 (15.1%) * $I = 0.82$	SF 270 (42.6%) *** $I = 0.76$
				NF 227 (35.8%) *** $I = 1.86$	NT 41 (6.5%) $I = 1.09$	SJ 206 (32.5%) *** $I = 0.66$
				SP 160 (25.2%) $I = 1.00$	NP 202 (31.9%) *** $I = 1.72$	NJ 66 (10.4%) *** $I = 1.58$
				TJ 71 (11.2%) *** $I = 0.75$	TP 66 (10.4%) $I = 1.09$	FP 296 (46.7%) *** $I = 1.36$
				FJ 201 (31.7%) *** $I = 0.77$	IN 65 (10.2%) $I = 1.15$	EN 203 (32.0%) *** $I = 1.97$
				IS 134 (21.1%) *** $I = 0.55$	ES 232 (36.6%) $I = 1.01$	ET 79 (12.5%) $I = 0.99$
				EF 356 (56.2%) *** $I = 1.41$	IF 141 (22.2%) ** $I = 0.62$	IT 58 (9.1%) * $I = 0.77$

#### Jungian Types (E)

	$n$	%	Index
E-TJ	39	6.0	0.83
E-FJ	136	21.5	1.06
ES-P	102	16.1	1.23
EN-P	159	25.1	2.08

#### Jungian Types (I)

	$n$	%	Index
I-TP	25	4.1	0.96
I-FP	75	14.6	0.82
IS-J	75	26.3	0.46
IN-J	22	2.5	1.40

#### Dominant Types

	$n$	%	Index
Dt. T	63	11.3	0.88
Dt. F	212	34.8	0.96
Dt. S	178	39.4	0.71
Dt. N	181	14.6	1.96

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**Table 2. Type Distribution of Undecided Male College Students and SRTT Comparisons With National Norms (Myers et al., 1998).**

$N = 634$  + = 1% of  $N$   $I$  = Selection Ratio Index \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

The Sixteen Complete Types				Dichotomous Preferences		
ISTJ $n = 44$ (6.8%) $I = 0.42^{***}$ ++++ ++	ISFJ $n = 21$ (3.3%) $I = 0.41^{***}$ +++	INFJ $n = 8$ (1.2%) $I = 0.97$ +	INTJ $n = 13$ (2.0%) $I = 0.61$ ++	E 391 (60.7%) I 253 (39.3%)	*** $I = 1.32$ *** $I = 0.73$	
ISTP $n = 57$ (8.9%) $I = 1.04$ ++++ ++++	ISFP $n = 35$ (5.4%) $I = 0.72^*$ +++++	INFP $n = 49$ (7.6%) $I = 1.84^{***}$ +++++	INTP $n = 26$ (4.0%) $I = 0.84$ ++++	S 348 (54.0%) N 296 (46.0%)	*** $I = 0.75$ *** $I = 1.63$	
ESTP $n = 86$ (13.4%) $I = 2.38^{***}$ ++++ ++++ +++	ESFP $n = 44$ (6.8%) $I = 0.99$ +++++	ENFP $n = 105$ (16.3%) $I = 2.54^{***}$ +++++	ENTP $n = 60$ (9.3%) $I = 2.33^{***}$ +++++	T 338 (52.5%) F 306 (47.5%)	$I = 0.93$ $I = 1.09$	
ESTJ $n = 39$ (6.1%) $I = 0.54^{***}$ ++++ +	ESFJ $n = 22$ (3.4%) $I = 0.45^{***}$ +++	ENFJ $n = 22$ (3.4%) $I = 2.10^{***}$ +++	ENTJ $n = 13$ (2.0%) $I = 0.75$ ++	J 182 (28.3%) P 462 (71.7%)	*** $I = 0.54$ *** $I = 1.50$	
				Pairs and Temperaments		
				IJ 86 (13.4%) IP 167 (25.9%) EP 295 (45.8%) EJ 96 (14.9%)	*** $I = 0.46$ $I = 1.04$ *** $I = 2.00$ *** $I = 0.65$	
				ST 226 (35.1%) SF 122 (18.9%) NF 184 (28.6%) NT 112 (17.4%)	** $I = 0.84$ *** $I = 0.63$ *** $I = 2.12$ $I = 1.17$	
				SJ 126 (19.6%) SP 222 (34.5%) NP 240 (37.3%) NJ 56 (8.7%)	*** $I = 0.45$ ** $I = 1.20$ *** $I = 1.93$ $I = 0.97$	
				TJ 109 (16.9%) TP 229 (35.6%) FP 233 (36.2%) FJ 73 (11.3%)	*** $I = 0.50$ *** $I = 1.55$ *** $I = 1.45$ *** $I = 0.61$	
				IN 96 (14.9%) EN 200 (31.1%) IS 157 (24.4%) ES 191 (29.7%)	$I = 1.10$ *** $I = 2.11$ *** $I = 0.60$ $I = 0.95$	
				ET 198 (30.7%) EF 193 (30.0%) IF 113 (17.6%) IT 140 (21.7%)	*** $I = 1.31$ *** $I = 1.33$ ** $I = 0.83$ *** $I = 0.66$	

#### Jungian Types (E)

	$n$	%	Index
E-TJ	52	8.2	0.58
E-FJ	44	6.8	0.75
ES-P	130	20.2	1.61
EN-P	165	25.6	2.46

#### Jungian Types (I)

	$n$	%	Index
I-TP	83	12.8	0.97
I-FP	84	13.0	1.11
IS-J	65	10.1	0.41
IN-J	21	3.3	0.71

#### Dominant Types

	$n$	%	Index
Dt. T	135	21.0	0.77
Dt. F	128	19.9	0.95
Dt. S	195	30.3	0.82
Dt. N	186	28.9	1.92

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The ENFP type was overrepresented in this sample. Almost one quarter of the female participants were ENFPs, which was more than twice the expected number for this type. The ENFJ type was also overrepresented. The Extraverted, Intuitive, and Feeling preferences were common to both of the overrepresented types.

**Supplementary Analyses.** The following pairs were overrepresented in the distribution of female participants: EP, NE, NP, NJ, FP, EN, and EF. The Extraversion, Intuition, and Perceiving preferences seem to be associated with academic and career indecision. The IJ, SF, SJ, TJ, FJ, IS, and IF preference pairs were underrepresented in the sample of undecided students. Introversion, Sensing, and Judging preferences appear to be associated with career decisiveness. There were particularly low numbers of IJ, SJ, IS, and IF students. (SEE TABLE 1, PAGE 14.)

**Male Participant Findings.** The findings for the male participants were parallel to those for the female participants. (SEE TABLE 2, PAGE 15.) Perceiving types were overrepresented in the undecided sample, as more than 70% had a Perceiving preference. Extraverted and Intuitive types also were overrepresented in the undecided sample. The distribution of T–F types was similar to that in the national sample.

As expected, the ESTJ and ESFJ types were underrepresented, as were the ISTJ and ISFJ groups. The underrepresented types shared Sensing and Judging preferences. There were no differences in the distributions of INTJ, INFJ, ENTJ, and ESFP types in the national and undecided sample groups. ESTP and ENTP types were overrepresented in the undecided sample.

The ENFP type was overrepresented in the undecided sample, as were the INFP and ENFJ types. A variety of type preferences appeared to be associated with indecision for male students. (SEE TABLE 2.)

**Supplementary Analyses.** The following pairs were overrepresented in the undecided sample: EP, NE, SP, NP, TP, FP, EN, ET, and EF. There were particularly high distributions of the EP, NE, and EN preference pairs. The Extraversion, Intuition, and Perceiving preferences were associated with career indecision. The following pairs were underrepresented: IJ, EJ, ST, SF, SJ,

TJ, FJ, IS, and IT. There were particularly low distributions of IJ and TJ students. The Judging and Sensing preferences were associated with career decisiveness. (SEE TABLE 2.)

## DISCUSSION

The overall goal of this study was to provide information to counselors about the relation of psychological type to career indecision. An emphasis was placed on eliminating the methodological flaws that had confounded previous findings on this subject. Several significant results were obtained that will prove useful to counselors providing dynamic MBTI interpretations to their clients.

**Type Preferences and Indecision.** As expected, the Perceiving preference was overrepresented in the undecided sample. This association was particularly evident among the males, as more than 70% had a Perceiving preference. This finding is consistent with Quenk's (2000) description of Perceiving as an attitude in which a person "collect(s) as much information as possible before coming to a conclusion" (p. 9).

The overrepresentations of Extraversion and Intuition preferences were not anticipated. It is difficult to explain why more than 60% of both the female and male samples demonstrated a preference for the Extraverted attitude. The tendency for Extraverts to direct their energy to the external world and Introverts to direct their energy to the inner world should not necessarily be related to the timing of career decision making.

In fact, a case could be made that Extraverts should experience less career indecision because of their tendency to gather more career information in their exploration of the external world. Nonetheless, nearly two-thirds of the combined sample was Extraverted. Our interpretation of this outcome is that these students wanted more time for active exploration of their varied interests. Quenk (2000) described Extraverts as tending to take a "trial and error approach to acquiring new experiences and skills" (p. 8). Rather than being indecisive, Extraverts may want more time to explore their multiple and competing interests and options before committing to an academic major. Their enrollment in the undecided student status may be a reflection of their

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generally open attitude toward the external world. It is also possible that the overrepresentation of Extraverts is a secondary reflection of the overrepresentation of the ENFP type.

The overrepresentation of students with the Intuition preference, although unanticipated, is easier to explain. People with the Intuition preference focus on possibilities, and individuals with the Sensing function prefer to use their senses to gather information (Myers et al., 1998). Both the Intuition and Sensing functions are vital in career decision making. However, people with an Intuition preference may lack the facts they need to ground their possibilities in reality. In fact, there is anecdotal evidence from the course instructors that such students benefited from the required interviews with established professionals, because they learned about the actual steps necessary to complete a given major or enter an occupation. Rather than having difficulty creating a vision of themselves in the future, N students may lack sufficient information about reality-based options.

It is notable that the T–F preferences of both the male and female samples closely matched the preferences in the national normative sample used for comparison. Preference for logical analysis or a values-oriented approach does not appear to affect the timing of the academic major decision. It remains to be seen whether this dimension ultimately affects stability in or satisfaction with academic major and career choices.

**Type Dynamics and Indecision.** There were some consistencies in the types that were under- and overrepresented in both the female and male undecided samples. Both female and male ISTJs and ISFJs were underrepresented. These types are alike in having a dominant function of Introverted Sensing and an inferior function of Extraverted Intuition (Quenk, 2000). Introverted Sensing appears to be associated with relative certainty about career choices for both women and men.

On the other hand, the ENFP and ENFJ types were overrepresented in both the female and male samples. An astonishing 19.3% of the combined sample had an ENFP type, which has Extraverted Intuition as the dominant function and Introverted Feeling as the auxiliary function. There is some support for the conclusion that Extraverted Intuition is associated with indecision,

because the ENTP type, which shares the Extraverted Intuition function, was overrepresented in the male sample. Extraverted Feeling is the dominant function of the ENFJ type. The ESFJ type, which shares the dominant function of Extraverted Feeling, was underrepresented in both male and female samples. Extraverted Feeling does not appear to be generally associated with indecision. In conclusion, Introverted Sensing is associated with decisiveness and Extraverted Intuition is associated with indecisiveness concerning academic major and career choices.

**Career Counseling Implications.** The findings have six implications for career counselors. First, the Perceiving type's tendency to remain open and gather as much information as possible is evident in the career decision-making process. Counselors may have to encourage Perceiving clients to terminate the exploration process before they feel comfortable doing so. Counselors also should not be surprised if Perceiving clients do not feel ready or prepared to enact a career decision at the culmination of the routine career assessment and counseling process. The indecision of Perceiving types may be exacerbated if they also have Extraverted and Intuitive preferences. This is not to say that people with the Judging preference have given adequate deliberation to their career decisions; they may need to be encouraged to extend the information gathering and evaluation process.

Second, the Sensing approach to perception is associated with decisiveness. In fact, only one Sensing temperament pair (SP) was overrepresented in either the female or male samples. It seems that the Sensing tendency to gather concrete information (e.g., labor market projections, entrance requirements, knowledge of job and personal characteristics) facilitates decision making. Therefore, the traditional career counseling emphasis on interest and personality assessment and gathering career information appears to be of substantial value. However, counselors should also be mindful that Sensing types value stability and tradition (Quenk, 2000). Their apparent decisiveness may be derived, in part, from loyalty to societal and family work traditions. Sensing clients should be encouraged to evaluate how well their career choices fit their personal characteristics and values. The desire to extend a family tradition of

*The indecision of Perceiving types may be exacerbated if they also have Extraverted and Intuitive preferences.*

entering a career in education, for example, is compelling. The value of tradition should be weighed against the opportunities provided for enacting the person's skills and meeting his or her goals.

Third, the high representation of Intuitive individuals in the undecided sample seems to indicate that they do not have enough facts and direct experience to inform their decision making. Competing with the need to gather information is the need to develop a sense of self as a worker (Cochran, 1997). The data seem to indicate that people with the Intuition preference need help in gathering concrete information and planning hands-on exploration experiences more than they need help with developing a sense of future possibilities. Intelligent and articulate Intuitive types may need counselors to assist them with the seemingly mundane tasks of locating information sources and learning to ask questions in career information interviews.

Fourth, neither the Thinking nor the Feeling approach to decision making is superior when considering the timing of the career decision. The distributions of Thinking and Feeling types in the undecided sample were quite close to those in the national sample. As is the usual practice, counselors should encourage people with a Feeling preference to apply logical analysis, and people with a Thinking preference should be encouraged to consider the personal consequences of their career decisions. Both approaches appear to culminate in satisfactory decisions.

Fifth, counselors should be aware of the strong association of the dominant function of Extraverted Intuition and the inferior function of Introverted Sensing with indecision. This particular type dynamic seems to encapsulate the positive and negative aspects of career indecision. From the positive or growth-oriented perspective, clients with a dominant function of Extraverted Intuition appear to need to consider multiple career options before committing to a course of action. The combination of active engagement in the external world and processing information by creating future possibilities seems to require time to explore and consider multiple opportunities. For example, one ENFP student listed entertainer, drama teacher, medical sales representative, missionary, interior designer, entertainment lawyer, and social

service agency director as her career aspirations. Her aspirations appear to reflect the "intense interest in growth and development" (Quenk, 2000, p. 127) that is characteristic of the ENFP type. Obviously, a considerable investment of time is required to weigh each of the alternatives according to decision criteria. Counselors also should be aware that ENFP indecision results from a "focus on experiencing stimulating and emotionally meaningful relationships and projects" (p. 127). The ENFP person may have difficulty in defining a career path, because he or she has a higher standard than simply finding a suitable career. The ENFP client may be seeking to fulfill a higher calling in the career choice. This need should be understood and respected by the career counselor.

On the other hand, ENFPs and ENTPs have an inferior function of Sensing and thus are likely to have a paucity of facts to inform their decision making. They may prefer involvement in counseling activities, such as fantasy projections of future roles, when they should be pursuing the more mundane task of gathering realistic information about each career aspiration. Further,

ENFPs "may benefit from the therapist's help in organizing at least some of life's details and guidance in choosing which projects to pursue" (Quenk, 2000, p. 127). Career counselors may need to provide more than the typical amount of active direction and guidance to the ENFP client in the decision-making process. Overall, counselors need to adopt a process that will honor the need to extravert future possibilities while making sure that the client has sufficient information and structure to ground the decision-making process.

Sixth, the combination of a dominant function of Introverted Sensing and an inferior function of Intuition seems to be associated with career decisiveness. The low number of ISTJ and ISFJ participants in this sample suggests that these types of students are unlikely to seek career counseling. Such individuals are likely to have devoted a good deal of personal thought and reflection to considering how the career information they have purposefully gleaned can be used to make a satisfactory career choice. However, if such clients are encountered, they should be challenged to broaden their range of occupational aspirations. Although ISTJ and ISFP

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clients are likely to make fact-based decisions, they can be helped by the counselor to develop more satisfying self-in-the-future projections and to allow sufficient time to evaluate the career decision. A fast, fact-based decision may not always be the best decision. Counselors should also be aware that the calm demeanor of ISTJ clients may belie inner turmoil and fear of losing control (Quenk, 2000). Challenging the ISTJ career choice may elicit client defensiveness or hostility. Counselors should persist in the face of client resistance, communicate their intention to support the client, acknowledge the discomfort that accompanies cognitive disorder, and help the client achieve a balanced evaluation of the career choice.

### LIMITATIONS

This study had at least four limitations. First, a national sample (Myers et al., 1998) was used in the SRTT analysis. The national sample is not stratified by educational level. Therefore, the type preferences of the university students in this sample were compared to the preferences in the national sample with unknown educational attainment characteristics. It is possible that the findings of the study reflect the differences between a university-level sample and a mixed educational sample in addition to decision characteristics. The alternative would have been to use the university sample, which was relatively small and consisted exclusively of ethnically diverse individuals. It was preferable to use the national sample. However, readers should be aware that the study findings may be partially influenced by the differences in educational attainment of the study sample and the national sample used to conduct the SRTT analysis.

Second, a total of 88 chi-square tests were conducted with a significance criterion of  $p < .01$ , which

means that there is a good chance that spurious significant findings were produced. However, there were 51 statistically significant findings, and 47 of these effects were significant at the criterion level of  $p < .001$ . This count indicates that type was related to indecision in many ways and that these findings are not the result of Type I error.

Third, students were assumed to be indecisive because of their enrollment in a program for undecided students. However, some students enrolled in this program for reasons other than indecision. For example, a few students used this vehicle for university enrollment, because they were not eligible for direct admission to engineering programs. The sample is contaminated to the extent that some students had reasons other than indecision for enrolling in this program. However, we have reason to believe that relatively few students enrolled for reasons other than indecision. The great majority of these students were genuinely undecided about their academic and career options.

Fourth, we did not gather any information regarding student distress about the decision. Some types of students are unworried about their undecided status, whereas other types of students worry excessively about the pending career decision (Larson, Heppner, Ham, & Dugan, 1988). Readers are cautioned against equating the behavioral measure of undecided student status with distress over the career decision.

In summary, this study was successful in identifying type dynamics associated with career indecision. Counselors are encouraged to use this information to explore the influence of Extraversion, Intuition, and Perceiving preferences on career indecision and to provide dynamic MBTI interpretations to clients with the ISTJ, INTJ, ENFP, and ENFJ profiles.

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