TYPOLOGY AND PROBLEMS IN INTIMATE RELATIONSHIPS
Ruth G. Sherman
An extensive study of the problems encountered by married couples of various combinations of psychological types, suggests what to watch for, with couples consisting of extraverted women married to introverted men being a particular population at risk.

PSYCHOLOGICAL TYPES AND CAREER SUCCESS
IN THE ACCOUNTING PROFESSION
Philip F. Jacoby
A rare ENFP accountant carefully studies a profession heavy with TJ's and ISTJ's, finding significant type differences in areas of specialization and degrees of hierarchical advancement, as well as examining the implications for business and dealing with some accountant stereotypes.

ADDITIONAL RESEARCH ARTICLES

THE RELATIONSHIP BETWEEN PROBLEM-SOLVING STYLES AND PROBLEM-SOLVING SKILLS AMONG ENTREPRENEURS
Frank Hoy and Bobby C. Vaught
A study of small businessmen shows that certain characteristics of the successful independent businessman appear to be related to psychological type.

PHYSICIAN SATISFACTION, PERSONALITY TYPE AND WORK SETTING IN FAMILY PRACTICE
Edward J. Hughes, Nancy R. Mosier, and Vincent R. Hung
Characteristics of physicians' practices and their personal satisfaction in their work are significantly related to psychological type, particularly on the E-I and S-N scales of the MBTI.
USE OF THE FIRST 50 ITEMS AS A SURROGATE MEASURE OF THE MYERS-BRIGGS TYPE INDICATOR
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* * *
Marriage, as a solution of the problem of happiness, is misconceived from the outset. Then they will be unhappy, and out of that they will make something. (Count Keyserling, The Book of Marriage, 1926)

This study is concerned with the relationship between similarities and differences in C. G. Jung's theory of psychological types as measured by the MBTI and the nature and extent of problems that occur when two people live together in an intimate relationship.

Proponents of homogamy (Rogers, 1951; Izard, 1960; Byrne and Griffith, 1966; Cattell and Nesselroade, 1967; Tharp, 1963; Berscheid and Walster, 1969) have waged many battles with proponents of heterogamy (Winch, 1958; Winch, Ktsanes and Ktsanes, 1954; Winch, 1974; Gray and Wheelwright, 1944) in research studies undertaken to discover why people marry. Whichever is true—and research studies continue to provide evidence for both points of view—a more important issue to consider is whether problems arising either from similarities or differences can be predicted. Then there may be more realistic levels of expectation and concomitantly a decrease in level of disappointment. If actuarial tables indicating the nature and extent of problems likely to be encountered can be provided for counselors, ministers, social workers, or psychologists who administer the MBTI to couples for pre-marital counseling, a couple can then take measures to prevent such problems from arising, or at least not be surprised when such problems begin to appear. "Marriages can withstand some kinds of difficulty and trauma, but they cannot stand the abuse of unmet expectations" (Farson, 1971).

Jung (1953, pp. 65-66) indicated that it was on the E-I dimension that opposites attract—that they appear "created for symbiosis"—but that as time goes on they discover that they have never really understood each other and the conflict becomes "envenomed, brutal, full of mutual deprecation..."
Lewis (1976), using the Holtzman Ink-Blot Technique, found that thinkers tend to marry feelers and that introverts and extraverts tend to marry similar attitude types. Keirsey and Bates (1978) report that individuals different on every dimension marry with high frequency. Williams (1977) studied the relationship between type and mate selection, marital adjustment and length of marriage using the Locke-Wallace Marital Adjustment Test, and reported no significant relationship between number of shared preferences and adjustment. Myers and Myers (1980) indicated greater likelihood for individuals to marry when there were two or three shared preferences. Lindner (1972) found a small but significant tendency for intermediate degrees of similarity to be associated with marital happiness.

Method

The Sample

Subjects for this study--167 couples--were drawn from a population of couples either married or involved in a "permanent" commitment, who had lived together for at least two years, and were solicited by a variety of methods. One portion was drawn from a population requesting counseling (about one quarter of the sample), another portion was drawn from undergraduate and graduate level classes at the University of Hawaii, and a third subsample came from participants in workshops given for groups such as the Junior League and Federally Employed Women. Participants were permitted to complete the instruments at home, but were requested not to collaborate or discuss their responses with their mate until after the material was returned. All participants received a description of their type and a brief explanation of their interpersonal dynamics, and were encouraged to call if they had additional questions.

The Status of Relationship Inventory, developed by the author to assess the nature and extent of problems in marital relationships, was administered in conjunction with the MBTI. The SRI evaluates problems in twelve potential problem areas: Communication, Finance, Sex, Values, Interests, Recreation, Decision-Making, Responsibility, Chores, Friends, Inlaws, and Children. Twelve items pertaining to each of the twelve areas were drawn from a previous instrument designed by the author to elicit comments from clients as to the nature of the
problems they were having. Scores for each of the 144 items ranged from +8 to -8.

Statistical Analysis

Hypotheses were tested by multivariate one-way analyses of variance followed by Duncan's Multiple Range Test for posteriority.

Results

Demographic Data

Members of the sample population came from fairly high status occupational levels (with approximately half the males and a third of the females engaged in professional work). About 12% were students. Approximately 65% were Caucasions; the second largest ethnic grouping (17%) were Japanese. There were no significant differences between problems reported by ethnic groups. Couples reported they had lived together from 2 to 34 years, with a mean of 9.4. The youngest male was 22, the oldest 63, with a mean of 36.7. The youngest female was 20, the oldest 65, with a mean of 33.6.

On E-I there was a slight tendency for individuals to choose someone different from themselves. On the other three scales there was a tendency to marry someone similar, and the tendency was significant on the S-N scale ($\chi^2 = 6.25, p < .05$).

Data Related to the Hypotheses

All significant differences found, as well as a listing of those variables for which none were found, appear in Tables 1 and 2 at the end of this section. All differences reported as significant in the tables or the text were significant at the .05 level or better. Complete results can be found in Sherman (1981).

Hypothesis 1. Are there significant differences in total problem scores reported by E's living with E's, E's living with I's, and I's living with I's?

Introverted husbands married to extraverted wives reported significantly more problems than either extraverted or introverted husbands with introverted wives. Extraverted wives of introverted husbands reported
significantly more problems than did introverted wives of introverted husbands.

Hypothesis 2. Are there significant differences in the twelve specific problem-area scores reported by E-E, E-I, or I-I combinations?

Concerning responses to Communication and Finance determinants, male I's married to female E's reported significantly more Communication problems than the other three combinations. They also reported more problems with Finance than men with introverted wives. Even extraverted husbands of extraverted wives reported more problems in this area than extraverted men with introverted wives.

In the area of Sexual concerns, extraverted wives of introverted males reported significantly more problems than the other three combinations.

Looking at responses to Values, Interests, and Recreation, introverted husbands of extraverted wives reported significantly more problems than introverted males living with introverted females. They also reported more problems than extraverted or introverted husbands of introverted women in response to Interest items, and more problems with Recreation needs than when the male is E and the female I.

Extraverted wives of introverts reported more problems with Interests and Recreation than the other three combinations of type.

Decision-making, Responsibility, and Chores are the areas in which negotiation is most likely to occur. Again, introverted men married to extraverted women reported more problems than either extraverted or introverted men with introverted wives with Decisions and with how Responsibilities are handled. They also reported over three times the number of problems with Chores as any of the other combinations of type (p<.05). Differences for women were not significant.

Table 5 describes reactions to the effect of other people on the relationship. Introverted males with extraverted wives reported more problems with Friends than did either extraverted or introverted men with introverted wives. Wives in this combination (I-E) also reported more problems than the other three combinations.
There were no significant differences in reaction to In-Laws, but this may be an artifact of the distance in actual miles from families of origin for a large proportion of Caucasions in this study.

Since only couples with children responded to the items concerned with children, the number of respondents declined by approximately one-third. Husbands with introverted wives did report fewer problems than those with extraverted wives, but the differences were not significant. Extraverted women reported fewer problems than introverted women, but again the differences were not statistically significant.

**Hypothesis 3.** Are there significant differences in total problem scores reported by S's living with S's, S's living with N's, and N's living with N's?

There were no significant differences in total problem scores reported by men in combinations of type on the sensing-intuition scale. However, inspection of the data shows the most problems were reported by intuitive males married to intuitive women, the least by sensing males married to sensing women. Intuitive women married to intuitive males reported significantly more problems than sensing wives, whether the husbands of sensing wives were intuitive or sensing.

**Hypothesis 4.** Are there significant differences in the 12 specific problem area scores reported by S-S, S-N, or N-N combinations?

There were no statistically significant differences for combinations of type as reported by either sex in the areas of Communication, Finance, Sex, Responsibility, Chores, Children, or In-Laws, though there was a consistent trend for N-N combinations to report the most problems and S-S combinations the least. When responding to problems associated with mutual Interests and to Recreation, intuitive husbands of sensing wives reported significantly more problems than sensing husbands of sensing wives. Intuitive wives with intuitive husbands also reported significantly more problems in the area of Recreation than did sensing wives.

Wives' responses to Decision-Making showed significantly more problems for intuitives married to intuitives than sensing types married to sensing types. These same
women also reported significantly more problems with 
Friends than did sensing women married to intuitive 
men.

*Hypothesis 5.* Are there significant differences in 
total problem scores reported by T's living with T's, T's 
living with F's, and F's living with F's?

Though feeling husbands of feeling wives reported 
the most problems and thinking husbands with thinking 
wives the least, thinking wives with feeling husbands 
reported fewer problems, and thinking wives with think­
ing husbands the most. None of these differences were 
statistically significant.

*Hypothesis 6.* Are there significant differences in 
the 12 specific problem area scores reported by T-T, T-F, 
or F-F combinations?

The only problem area showing statistically signifi­
cant differences was items related to Children as reported 
by males. Thinking men married to feeling women reported 
almost three times as many problems as feeling men with 
feeling wives, feeling men with thinking wives and think­
ing men with thinking wives.

*Hypothesis 7.* Are there significant differences in 
total problem scores reported by J's living with J's, J's 
living with P's, or P's living with P's?

There were only minimal differences between problem 
scores reported by varying combinations of type on the 
J-P scale. Of interest, perhaps, is the fact that P wives 
with J husbands reported more problems than other wives, 
and almost twice as many problems as their husbands who 
were the males with the lowest problem scores; but these 
differences were not statistically significant.

*Hypothesis 8.* Are there significant differences in 
the 12 specific problem area scores reported by J-J, J-P, 
or P-P combinations?

Perceiving men living with judging women reported 
significantly more problems with Communicating than when 
the combination was reversed. Judging women living with 
perceiving men reported significantly more problems with 
In-Laws than perceiving women who lived with perceiving 
men. There were no other significant differences, but
there were consistent trends for perceiving pairs to report the most problems and judging pairs to report the least.

Hypothesis 9. Are there significant differences in problem scores reported by couples similar on 0, 1, 2, 3 or 4 scales of the MBTI?

Table 3 depicts mean problem scores on the SRI for both husbands and wives according to the number of MBTI scales on which they are similar to or different from each other. For men, being similar on 1 of the 4 scales created the most problems; for women being similar on 2 scales produced the most problems. When men and women were the same type they reported the smallest number of problems, and when they were totally dissimilar they reported fewer problems than when they are similar on 1, 2, or 3 scales. (These differences were not statistically significant, however.) This trend carried through when specific problem areas were analyzed.

Table 1

Summary of Significant (+) and Non-Significant (-) Differences in Scores on Specific Problem Variables between Different Couple Type Combinations of E-I, S-N, T-F, and J-P as Reported by Men and Women

<table>
<thead>
<tr>
<th>PROBLEM VARIABLE</th>
<th>COMBINATIONS INVOLVING/AS REPORTED BY EI</th>
<th>SN</th>
<th>TF</th>
<th>JP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MEN</td>
<td>WMN</td>
<td>MEN</td>
<td>WMN</td>
</tr>
<tr>
<td>Overall mean</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Communication</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Finance</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sex</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Values</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Interests</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Recreation</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Decision making</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Responsibility</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Chores</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Friends</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>In-laws</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Children</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: Specific findings for all variables on which there were significant differences appear in Table 2.
Table 2

Summary of Significant (p<.05) Differences in Scores on Problem Variables between Couple Type Combinations of E-I, S-N, T-F, and J-P as Reported by Men and Women

<table>
<thead>
<tr>
<th>SEX REPORTING</th>
<th>COUPLE TYPES</th>
<th>PROBLEM VARIABLE</th>
<th>MEAN</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men I-M/E-W</td>
<td>Overall mean</td>
<td>1.08</td>
<td>0.9</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>&gt; Men E-M/I-W</td>
<td>Overall mean</td>
<td>0.48</td>
<td>0.9</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>&gt; Men I-M/I-W</td>
<td>Overall mean</td>
<td>0.47</td>
<td>0.9</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Women I-M/E-W</td>
<td>Overall mean</td>
<td>1.15</td>
<td>1.0</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>&gt; Women I-M/I-W</td>
<td>Overall mean</td>
<td>0.69</td>
<td>1.0</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Men I-M/E-W</td>
<td>Communication</td>
<td>1.39</td>
<td>1.4</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>&gt; Men E-M/E-W</td>
<td>Communication</td>
<td>0.89</td>
<td>1.4</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>&gt; Men E-M/I-W</td>
<td>Communication</td>
<td>0.76</td>
<td>1.4</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>&gt; Men I-M/I-W</td>
<td>Communication</td>
<td>0.56</td>
<td>1.4</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Men I-M/E-W</td>
<td>Finance</td>
<td>1.10</td>
<td>1.1</td>
<td>46</td>
<td></td>
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<tr>
<td>&gt; Men E-M/E-W</td>
<td>Finance</td>
<td>0.24</td>
<td>1.1</td>
<td>45</td>
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<tr>
<td>&gt; Men I-M/I-W</td>
<td>Finance</td>
<td>0.29</td>
<td>1.1</td>
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<td>1.1</td>
<td>39</td>
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<tr>
<td>&gt; Men E-M/I-W</td>
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<td>0.24</td>
<td>1.1</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Women I-M/E-W</td>
<td>Sex</td>
<td>1.80</td>
<td>1.6</td>
<td>46</td>
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<tr>
<td>&gt; Women E-M/E-W</td>
<td>Sex</td>
<td>1.11</td>
<td>1.6</td>
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<tr>
<td>&gt; Women E-M/I-W</td>
<td>Sex</td>
<td>0.62</td>
<td>1.6</td>
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<tr>
<td>&gt; Women I-M/I-W</td>
<td>Sex</td>
<td>0.69</td>
<td>1.6</td>
<td>37</td>
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<tr>
<td>Men I-M/E-W</td>
<td>Values</td>
<td>0.97</td>
<td>1.1</td>
<td>46</td>
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<tr>
<td>&gt; Men I-M/I-W</td>
<td>Values</td>
<td>0.44</td>
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<tr>
<td>Men I-M/E-W</td>
<td>Interests</td>
<td>1.12</td>
<td>1.0</td>
<td>46</td>
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<tr>
<td>&gt; Men E-M/I-W</td>
<td>Interests</td>
<td>0.50</td>
<td>1.0</td>
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<td>Men I-M/I-W</td>
<td>Interests</td>
<td>0.60</td>
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Table 2 (continued)

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<th>SEX REPORTING</th>
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<th>SD</th>
<th>N</th>
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<td>I-M/E-W</td>
<td>Interests</td>
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<td>E-M/E-W</td>
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<td>I-M/E-W</td>
<td>Recreation</td>
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<td>E-M/I-W</td>
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<td></td>
</tr>
<tr>
<td>Women</td>
<td>E-M/E-W</td>
<td>Recreation</td>
<td>0.48</td>
<td>0.8</td>
<td>39</td>
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<td>Recreation</td>
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<td>45</td>
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<tr>
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Table 3

Relationship between Number of MBTI Scale Similarities and Overall Mean Problem Scores Reported by Men and Women

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<th>MEAN PROBLEM SCORES</th>
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Discussion

Homogamy/Heterogamy and Problems

Extraversion-Introversion. Differences or similarities on this dimension of the MBTI appear to have more impact on problems that develop in relationships than any other MBTI scale. The most perilous combination seems to be an introverted male living with an extraverted female, for both members in that combination report experiencing the most problems. Moreover, both extraverted and introverted males who live with introverted women report fewer problems than men who have extraverted wives.

Jung (1953) indicated that it is on this dimension that opposites tend to attract. Of the 167 couples who participated in this study, 76 chose someone similar and 91 chose someone different on this dimension. For the opposites who are attracted to each other, it would appear that a relationship has a greater likelihood of providing satisfaction if the pairing is a male extravert with a female introvert.

Myers and Myers (1980) indicated that extraverted males have a clearer idea of what people are like, and may make a "more informed choice" than the introverted male "who unknowingly is selected by an outgoing extraverted woman."

Keyserling (1926) stated that individuals whose development was one sided were more likely to choose someone different from themselves to marry, and that those whose development was more balanced would be more likely
to choose someone similar to themselves. It is very possible that the very qualities in an extraverted woman that the introverted male lacked and which attracted him to her at the onset of their relationship, are the very qualities that create discord during the course of the relationship. Ease in interactions with the environment, responsiveness to others, the ability to socialize and to initiate relationships—qualities an extravert often possesses—may appear desirable to introverted males who have not yet developed extraverted skills. But when the two are living together in an on-going relationship, their needs are likely to be in direct conflict. Extraverts "have to" process and interact with others to communicate their feelings and/or ideas. Introverts "have to" reflect, to process and sort out internally (Jung, 1971). If either process is aborted, problems and dissatisfaction arise, and will generally result in a no-win situation.

Another factor which may contribute to the dissatisfaction of the male introvert-female extravert is the myth they may both be relating to: that the man is the one who is at ease with the world, who handles the environment, and the woman supports and follows his lead. When both become aware that this is not the natural order of things in their particular marriage, both may respond with disappointment.

The situation is quite different when the pairing is reversed. In many respects extraverted males and introverted females more clearly fit the roles they are "supposed" to play. Despite the fact that many researchers report that the artificially determined roles of males and females are no longer relevant, they still do appear to have impact on satisfaction levels in relationships.

Sensing-Intuition. This scale was more useful in discriminating between happy and unhappy women than men. Intuitive women reported more problems than sensing women, especially if they were married to intuitive males. Intuitive males also reported more problems, but the differences were not significant.

One factor that may contribute to these results may be a reflection of a sensing type's sense of humor on the difficulties that are bound to occur when two people live together. A sense of humor can keep minor irritations from becoming major obstacles.
Another contributing factor may be that intuitives experience a higher level of expectation than sensing types do. Sensing types tend to be practical, realistic, and matter-of-fact, whereas intuitives tend to be more idealistic and imaginative, and to focus on the satisfactions the future will bring. Imagination and idealism can create unrealistic fantasies that no mate could possibly satisfy, and unmet expectations result in disappointment and dissatisfaction.

Another factor contributing to more problems for intuitives living with intuitives is that they are more likely to be original and creative, but to need someone to follow-through with the detail work. Each may expect the other to handle the nitty-gritty and feel resentful when this doesn't happen.

These results are somewhat surprising since this is the function which determines how one receives information, and communication is often easier when two people are similar on this scale. In this study, as in the one reported by Myers and Myers (1980) couples were more likely to be similar to each other on S-N than any other scale.

Thinking-Feeling. There was only one statistically significant difference between combinations of pairs on this scale (responses to Children by males). There were, however, two consistent trends that might be worth noting: (1) males living with thinking women reported fewer problems in almost all areas; and (2) women living with feeling men reported fewer problems for eight of the twelve areas.

It is interesting to speculate on the reasons for these trends. This is the scale that has most frequently been associated with masculinity/femininity in the past. If there are other basic differences in the ways men and women think, then a male feeler and a woman thinker would tend to be more similar to each other (both approaching androgyny), while a thinking male and feeling female would express the extreme in polarity.

Judging-Perceiving. In general, perceiving mates of judging individuals reported the most problems, regardless of which was male and which was female. Individuals who prefer a judging orientation need to organize and control their environment, and a mate may be part of that
environment. The need of a perceiving individual not to be controlled is as strong as the need of a judging individual to control. This is particularly true for NP's, who exhibit the strongest need for autonomy. Though perceiving individuals are generally adept at slipping out from any rigid structure, they may still feel resentful about what they see as a mate's attempt to dominate them, rather than seeing the attempt to structure as a J's response to his or her own need to live life in a planned, organized manner.

When two judging individuals choose to marry, they appear to be more satisfied with their relationship than other combinations of type. Two J's who both subscribe to a work ethic are less likely to question established rules and customs, are less likely to experience the distress of conflicting values which may occur when a partner's readiness for new experiences and tolerance for the unexpected carries him/her off into unexpected directions. The conflicts that do occur between two J partners are more likely to arise from the stubbornness with which each will cling to his/her position.

Effects of Homogamy/Heterogamy on Specific Problem Areas

Communication. Fifty per cent of the E women married to I men were EFJ's, who are the most sociable of any type, with the greatest need for verbal interaction. These women are living with men who process internally and have minimal needs for verbal interaction. Homogamy rather than heterogamy is more likely to result in satisfaction for men in this area.

All wives reported more problems than their husbands did. These results are congruent with findings in clinical practice, where wives are prone to claim "He never tells me anything."

Homogamy is preferable for sensing types, not intuitives. Intuitives may have higher expectations for being understood. Pairs of thinking men with feeling wives report the most problems. If he can be convinced by nothing but logic, and she gives priority to her feelings or values regardless of logic, it is possible to understand why communication is frustrating to both individuals.

Finance. When the woman is an introvert, couples appear to have fewer problems with money. Money may be
one area where struggles for dominance surface, and possi-
bly introverted women find more subtle means of getting
their needs met here than extraverted women who may be
more assertive.

Sex. When a couple is composed of a male I and a
female E they both report more problems in this area than
other combinations. It would appear to be more satisfy-
ing to both individuals in the relationship for the tradi-
tional roles of the male being the more active (E) and
the female the more passive (I) to be enacted. Pairs of
intuitives also seem to experience more problems, with
the reality of the sexual experience perhaps not meeting
their romantic expectations.

Values. Homogamy on E-I, at least for introverts,
produces greater agreement on Values than heterogamy.
Possibly introverted males feel thwarted in trying to
communicate their values to extraverted wives.

Interests. The male I - female E combination report
the most problems, and all of the intuitives report more
problems than the sensing types, with perceivers also
reporting more problems than judgers. Perhaps SJ's are
more likely to maintain long term interests in fewer,
more simple pursuits; NP's become enthusiastic about a
greater variety of pursuits, but also have those interests
wane.

Recreation. Again, the introverted male - extraver-
ed female combination results in more problems. Men
appear to experience fewer problems with introverted
wives, who may be less likely to push for outside activi-
ties if a husband wants to come home and relax (if he's I)
or do things with his friends (if he's E).

On the sensing-intuitive dimension, intuitives report
more problems. Sensing types are more physical, do enjoy
sports more, and are more fun-loving. So it is not sur-
prising that two sensing types would have few problems in
this area.

Decision-making. Decision-making items discriminated
among men, not women, on the E-I scale. Males, and espe-
cially introverted males, are much less satisfied with how
decisions are made when their wives are extraverted. E
women may be more likely to insist on an equal say in what
decisions are made; introverted women may influence
decisions more subtly— at least I women do not appear to be dissatisfied with their impact on decision-making process.

Homogamous intuitive couples report more problems than pairs of sensing types. Intuitives may derive more satisfaction from brain-storming solutions than in actually arriving at a decision.

Responsibility. In this potential trouble spot—assuming and carrying through with responsibilities—men report fewer problems with introverted women. Perceiving husbands were also much less pleased with the performance of their perceiving wives (although the difference did not quite reach statistical significance). Men may have higher expectations, for the wives of perceiving husbands did not report any more problems than the wives of judging husbands.

Chores. The difficulty reported by the 1 husbands of E wives may be due to the possibility that husbands use up their energy on the job, have none left over for chores at home, and then have to contend with a verbal, dissatisfied wife.

Friends. Male introverts living with female extraverts report more problems with friends. Their wives, too, are much less satisfied than other wives. These results are understandable, for extraverted women will want more friends, and will want to spend more time socializing with friends; introverted males will want few, if any, friends, and will prefer to engage in solitary pursuits. Their needs are diametrically opposed.

Intuitive women with intuitive husbands report more problems than sensing women do, again possibly because of unrealistic expectations.

In-laws. Husbands with extraverted wives report more problems than those with introverted wives, though the difference is not significant. It is possible that extraverted women are more outspoken and assertive in family disagreements, have more open struggles with their mothers-in-law, and create more feelings of tension and strife for their husbands.

Perceiving wives of perceiving husbands reported significantly fewer problems with in-laws than judging
wives, and this is a reversal of the general trend of finding greater satisfaction reported by judging pairs. It is easier for perceivers to break free from parental bonds, just as it is easier for them to break free from tradition and ritual. So when perceivers marry each other, neither is likely to hold any "shoulds" or "oughts" over the other in meeting parental expectations.

Children. This is the only area of statistical significance for comparisons of thinking-feeling combinations, with thinking husbands of feeling wives reporting the most problems. Feeling women are apt to be emotionally invested in their children, and probably stand firmly by their convictions despite all the logic and objectivity their husbands may bring to bear when decisions about discipline or punishment need to be made.

Number of Scale Similarities

Previous analyses provide a basis for understanding why the number of MBTI scale similarities was not significantly related to satisfaction for either males or females. An ISTJ male is more likely to be satisfied by an ISTJ woman, similar on all four scales. An ENFP male is also more likely to be satisfied by an ISTJ woman, different on all four scales. An ENFP woman is likely to find more satisfaction with an ESFJ male (similar on two scales, different on two).

Individuals similar to each other on all four scales did report fewer problems than other combinations. These results are not surprising, for the greater the similarity, the more one individual should understand the other.

Analyses of problems reported by couples showed that next to being totally similar, being totally dissimilar resulted in the fewest problems reported by both husbands and wives. Going back to the original data revealed that four of these nine couples were ESTJ males paired with INFP wives. ESTJ's are the most self-confident, dominating of all types; INFP's are the most insecure of all types. Both mates may be very satisfied with their marriage—one is clearly the leader with most of the overt power, the other the follower, and possibly not even aware of the covert power she may hold. But this pairing is unlikely to promote individual growth for either partner within the marriage. The INFP may not feel sure enough of herself to challenge the ESTJ, and he can stay locked
into rigid misperceptions. The ESTJ is the most critical of all types and is not likely to provide the warmth and support an INFP needs if she is going to risk developing new skills. Whether this can be classified as a "good" marriage is debatable.

Conclusions

The question of whether homogamy or heterogamy is preferable—even when examined in terms of just one personality instrument with just four scales—has no simple answer. The results of this study show all males, extraverted or introverted, report fewer problems when they are in relationships with introverted women. So homogamy can be recommended for introverted males, heterogamy for extraverted males. Introverted women report an equal number of problems with extraverted and introverted males (though sex is better with extraverts), but extraverted women are happier with extraverts.

There is a significant tendency towards homogamous pairings for sensing types and intuitives. For both sexes, it would appear that homogamy is preferable for practical sensing types, heterogamy for imaginative intuitives. This is also true on the judging-perceiving dimension (which does correlate with sensing-intuition); homogamy is preferable for structured judging types, heterogamy for flexible perceptive types.

Possibly because of the composition of the sample, with only one-quarter of the women classified as thinkers, there were almost no significant relationships involving combinations of type on the thinking-feeling scale. There was some tendency for males, particularly feeling males, to report fewer problems with thinking females. Androgyny rather than homogamy or heterogamy may have more impact on this dimension.

Counselors, social workers or other therapists using the results of this study for working with couples must be cautioned that at this point predictive validity for combinations of type in marriage has yet to be established. Although both the MBTI and the SRI appear to have satisfactory levels of reliability, use of the combination of the two instruments for counseling is still in the exploratory stage. Very preliminary results do indicate that in general, a male would experience fewer problems with an ISTJ woman; a female might do better with
an ESJ type—and if sex were more important she would choose someone different from herself on the T-F scale; if communication were more important she would choose someone similar to herself on the T-F scale. It would appear that either similarities or differences can provide satisfaction for individuals involved in primary relationships.

References


Farson, R. E. Why good marriages fail. McCaill's, October 1971.


Lewis, D. C. Jungian theory and marital attraction.
Unpublished manuscript, Notre Dame University, 1976.


Numerous studies have demonstrated the applicability of type theory and the MBTI to occupational research. Although career success, i.e., hierarchical advancement, in the accounting profession is widely recognized to be related to personality characteristics, there are conflicting prescriptions as to what specific qualities are most important or desirable. Moreover, there has been very limited empirical research directed toward identifying personality characteristics which typify successful professional accountants. The need for and potential utility of research in this area is highlighted by the unusually high turnover of professional personnel in large CPA firms, which has been estimated to be about 20% annually (Montagna, 1974). To further the understanding of the role personality plays in the accounting profession, an exploratory study of psychological types of accountants in public practice has been conducted. This paper will summarize the salient results and implications of the research.

Several prescriptions of personality type for accountants are reported in the MBTI literature. For example, correlations between the MBTI and the Strong Vocational Interest Blank (Stricker and Ross, 1962) suggest that preferences for thinking (T) and judgment (J) be prescribed for individuals contemplating accounting careers. Myers (1962) conducted a study which correlated MBTI scores with Edwards Personal Preference Schedule "needs" and concluded in part that "The need of ISTJ people for Order agrees with their having the right interests for business detail and accounting." Kiersey and Bates (1978) also maintain that "ISTJ's make excellent bank examiners, auditors, accountants, or tax examiners."

Only two previous studies have been identified which describe the typological preferences of practicing accountants. In one of the first reported experiments involving the MBTI, Laney (1949) found that introvert, sensing, and thinking types were particularly well suited for accounting careers in a corporate setting. Laney's conclusions were later supported by Barrett (1969) who found a high
frequency (30%) of ISTJ's within a sample of 80 public accountants. The findings of both Laney and Barrett appear consistent with type theory and with Myers' recent observation (1980) that "This (ISTJ) is a fine type for accountants."

Although type theory and the limited previous research suggest that the choice of an accounting career and success in the profession are related to type, the prescription of the ISTJ type as a definitive typological construct for the successful professional accountant is questionable on several grounds. For example, reported prescriptions generally fail to distinguish between different accounting occupations, e.g., between mere bookkeepers and professional accountants (CPA's) in public accounting practice or between professional accountants with different practice specializations. Second, the prescription of the ISTJ type may be distorted by subjective and somewhat stereotypical perceptions of accountants and their work. Indeed, the ISTJ prescription is inconsistent with the accounting literature's emphasis on innovative qualities and strong interpersonal competence among professional accountants. Finally, the prescription of an "ideal" personality type for accountants is complicated by the fact that public accounting practice by its very nature involves numerous conflicting role expectations (Bartunck & Corsini, 1979). Accordingly, it would seem realistic to contend that individuals with diverse personality characteristics are needed and may be successful in the accounting profession.

The above observations do not preclude the possibility that certain psychological types rather than others are more likely to be successful in the accounting profession. This contention is explored in the present descriptive study by comparing the distribution of types in hierarchical subgroups of a sample of practicing public accountants. The design of the research is briefly described in the following section.

Research Objectives and Methodology

The specific objectives of this exploratory study were: (1) to describe the distribution of types within a large sample of professional accountants in public accounting practice; (2) to compare the distribution of types within the accountant sample with general population norms; (3) to ascertain whether different types
characterize successful accountants in different areas of practice specialization; and (4) to investigate the possibility that success in large public accounting firms is related to a pattern of type selection.

To meet the above objectives, subjects were drawn from the Washington, D.C. offices of three "Big Eight" public accounting firms. The entire professional staff of each office was asked to complete the MBTI questionnaire. A sample of 333 accountants was obtained, which constituted a respectable voluntary response rate of 51%. Large public accounting firms are well suited to participate in this research because they are highly structured organizations wherein professional personnel are clearly identifiable by standard hierarchical and functional classifications. Accordingly, the aggregate sample was divided into subgroups categorized by (a) four hierarchical positions: partners, managers, seniors, and juniors; and (b) three areas of practice specialization: audit, tax, and management advisory services (MAS). Table 1 describes the composition of the sample according to the above hierarchical positions and areas of practice specialization.

Table 1

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<td></td>
<td>23%</td>
<td>2%</td>
</tr>
<tr>
<td>TOTALS</td>
<td>n=186</td>
<td>n=38</td>
</tr>
<tr>
<td></td>
<td>56%</td>
<td>11%</td>
</tr>
</tbody>
</table>

The distributions of types within sample subgroups
were statistically compared by a series of Selection Ratio Type Table (SRTT) analyses (McCaulley, 1978) which apply contingency table techniques. To provide a basis for inferences about the extent to which typological differences exist between the accountant sample and the general U.S. population, an SRTT analysis was prepared to compare the aggregate accountant sample with Myers' sample of 9,320 Pennsylvania high school students (Myers, cited in McCaulley, 1978). Myers' student sample is considered one of the most representative samples of the U.S. population presently available. The important results of this investigation will be presented in four sections which correspond to the four specified research objectives.

**Distribution of Types Within the Sample**

The distribution of types within the aggregate sample of 333 accountants is presented in Table 2. The data in Table 2 indicate all 16 types are present in the sample. As predicted, the most frequent type in the sample is ISTJ (19.8%). Relative to the four dichotomous type categories, there are slightly more introverts (53% I) than extraverts (47% E) and slightly more sensing types (53% S) than intuitives (47% N) in the sample. However, there are substantially more thinking types (68% T) than feeling types (32% F) and substantially more judging types (75% J) than perceptive types (25% P). The most frequent

<table>
<thead>
<tr>
<th>Type</th>
<th>Sample Size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISTJ</td>
<td>66</td>
<td>19.8%</td>
</tr>
<tr>
<td>ISFJ</td>
<td>22</td>
<td>6.6%</td>
</tr>
<tr>
<td>INFJ</td>
<td>10</td>
<td>3.0%</td>
</tr>
<tr>
<td>INTJ</td>
<td>41</td>
<td>12.3%</td>
</tr>
<tr>
<td>ISTP</td>
<td>7</td>
<td>2.1%</td>
</tr>
<tr>
<td>ISFP</td>
<td>9</td>
<td>2.7%</td>
</tr>
<tr>
<td>INFP</td>
<td>14</td>
<td>4.2%</td>
</tr>
<tr>
<td>INTP</td>
<td>9</td>
<td>2.7%</td>
</tr>
<tr>
<td>ESTP</td>
<td>5</td>
<td>1.5%</td>
</tr>
<tr>
<td>ESFP</td>
<td>4</td>
<td>1.2%</td>
</tr>
<tr>
<td>ENFP</td>
<td>16</td>
<td>4.8%</td>
</tr>
<tr>
<td>ENTP</td>
<td>20</td>
<td>6.0%</td>
</tr>
<tr>
<td>ESTJ</td>
<td>46</td>
<td>13.8%</td>
</tr>
<tr>
<td>ESFJ</td>
<td>17</td>
<td>5.1%</td>
</tr>
<tr>
<td>ENFJ</td>
<td>16</td>
<td>4.8%</td>
</tr>
<tr>
<td>ENTJ</td>
<td>31</td>
<td>9.3%</td>
</tr>
</tbody>
</table>
combination of two type preferences in the sample is thinking-judging (55% TJ). In fact, of the 16 possible types, the thinking-judging types are the four most frequent types observed, i.e., ISTJ (19.8%), ESTJ (13.8%), INTJ (12.3%) and ENTJ (9.3%).

McCaulley (1978) describes thinking-judging types as tough-minded executives who are characteristically logical, analytical, dependable, responsible, systematic, decisive and well-organized. The data presented thus far indicate most accountants in the sample are likely to possess these characteristic thinking-judging qualities, and these qualities appear well suited for individuals pursuing careers in public accounting.

Comparison with the General Population

The distribution of types in the aggregate sample of accountants is significantly different from the distribution in Myers' high school student sample and, by inference, from the distribution in the general population. The data in Table 3 indicate, for example, that the public accounting profession attracts significantly (p<.001) more introverted, intuitive, thinking, and judging types than would be expected by chance. The data also indicate proportionately almost twice as many thinking-judging types (R=1.94) and almost three times as many ISTJ's (R=2.86) amongst the accountants as in Myers' sample.

Table 3
Comparison of Type Frequencies between the Accountant Sample and Myers' High School Student Sample

<table>
<thead>
<tr>
<th>SELECTED TYPE CATEGORIES</th>
<th>SAMPLE</th>
<th>I</th>
<th>N</th>
<th>T</th>
<th>J</th>
<th>TJ</th>
<th>ISTJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountants n=333</td>
<td></td>
<td>53%</td>
<td>47%</td>
<td>68%</td>
<td>75%</td>
<td>55%</td>
<td>20%</td>
</tr>
<tr>
<td>H.S. Students n=9320</td>
<td></td>
<td>35%</td>
<td>32%</td>
<td>48%</td>
<td>55%</td>
<td>28%</td>
<td>7%</td>
</tr>
<tr>
<td>Selection Ratio</td>
<td></td>
<td>1.52</td>
<td>1.48</td>
<td>1.42</td>
<td>1.37</td>
<td>1.94</td>
<td>2.86</td>
</tr>
</tbody>
</table>

Note: All ratios significant at p<.001.

It is interesting to note that although most
accountants in the present sample are sensing types (53%), there are relatively more intuitives amongst the accountants than in the general population. The high frequency of intuitives in the college educated accountant sample may be partially explained by the propensity for intuitive types to complete higher education. However, further analysis of the data indicates that the frequency of intuitive types varies considerably across subgroups of the accountant sample.

Comparison Between Successful Accountants in Different Specializations

The majority of successful accountants, i.e., partners and managers, in all three areas of practice specialization are thinking-judging types. Accordingly, it appears that a high frequency of thinking-judging types not only distinguishes public accountants as a group from the general population, but is also characteristic of hierarchically successful accountants in all specializations. Although the thinking-judging combination was found to be a consistent precursor to career advancement, the frequencies of introverted sensing types and ISTJ's vary substantially among successful accountants in different specializations.

Successful tax and MAS practitioners are typologically similar. However, audit partners and managers are typologically distinguishable from their peers in tax or MAS in the following respects:

1. There are significantly (p<.01) more sensing types, and conversely, significantly fewer intuitive types among audit partners and managers than among partners and managers from either tax or MAS specializations. Indeed, almost three out of four (74%) audit partners and managers are sensing types whereas a majority of successful tax and MAS specialists are intuitives. Moreover, there are three times as many intuitive types among tax partners (60% N) and MAS partners (69% N) as among audit partners (20% N).

2. Although two-thirds (67%) of the successful auditors are introverts, introverts and extraverts are about equally distributed among successful tax and MAS practitioners.

3. Most successful auditors (52%) are introverted sensing
types and relatively few are extraverted intuitive types (10%). In contrast to auditors, E-I and S-N type combinations are much more evenly distributed among successful tax and MAS practitioners. In fact, introverted sensing types are significantly \( p < .05 \) more frequent and extraverted intuitive types are significantly \( p < .05 \) less frequent among successful auditors than among their counterparts in tax or MAS.

4. Although ISTJ's are frequent among successful accountants in all specializations, the ISTJ type is about twice as frequent among successful auditors (40%) as among successful tax or MAS practitioners.

The above findings are eminently reasonable when considered in the context of the fundamental differences between the auditor's attestation role and the tax or MAS practitioner's consultative role. For example, the introvert sensing combination typifies thoughtful realists who consider "knowledge important to establish truth" (McCaulley, 1976). In view of the auditor's responsibility for "establishing truth," it is consistent with type theory to find that the majority of successful auditors are introverted sensing types. In contrast to the historical perspective and conservative temperament of auditors, tax and MAS consultants frequently serve as advocates of innovation and change. Tax planning and management consulting (MAS) would therefore seem to require individuals who are inventive and future-oriented. Extraverted intuitive types have been described as "action-oriented innovators" who consider "knowledge important for creating change" (McCaulley, 1976). In view of their proactive consultative roles, one could expect more intuitive and extraverted intuitive types among successful tax and MAS practitioners than among career auditors.

**Patterns of Type Selection**

The relationship between career success and type is explored further by examining hierarchical patterns of type selection within practice specializations. (See Tables 4, 5, and 6.) Comparison of type frequencies between hierarchical subgroups within the audit specialization resulted in the strongest evidence that success in large public accounting firms is related to type. Accordingly, the following discussion will emphasize the observed pattern of type selection within the audit specialization.
Table 4

Summary of Selected Type Frequencies in Audit Hierarchical Subgroups

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>I</th>
<th>S</th>
<th>T</th>
<th>J</th>
<th>IS</th>
<th>EN</th>
<th>ST</th>
<th>TJ</th>
<th>STJ</th>
<th>ISTJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Partners</td>
<td>60%</td>
<td>80%</td>
<td>68%</td>
<td>72%</td>
<td>56%</td>
<td>16%</td>
<td>56%</td>
<td>60%</td>
<td>56%</td>
<td>36%</td>
</tr>
<tr>
<td>33 Managers</td>
<td>73%</td>
<td>70%</td>
<td>79%</td>
<td>85%</td>
<td>48%</td>
<td>6%</td>
<td>58%</td>
<td>70%</td>
<td>54%</td>
<td>42%</td>
</tr>
<tr>
<td>53 Seniors</td>
<td>47%</td>
<td>60%</td>
<td>58%</td>
<td>79%</td>
<td>34%</td>
<td>26%</td>
<td>38%</td>
<td>45%</td>
<td>23%</td>
<td>13%</td>
</tr>
<tr>
<td>75 Juniors</td>
<td>48%</td>
<td>41%</td>
<td>55%</td>
<td>68%</td>
<td>24%</td>
<td>35%</td>
<td>20%</td>
<td>39%</td>
<td>17%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Table 5

Summary of Selected Type Frequencies in Tax Hierarchical Subgroups

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>I</th>
<th>S</th>
<th>T</th>
<th>J</th>
<th>IS</th>
<th>EN</th>
<th>NT</th>
<th>TJ</th>
<th>ISTJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Partners</td>
<td>40%</td>
<td>40%</td>
<td>70%</td>
<td>90%</td>
<td>10%</td>
<td>30%</td>
<td>50%</td>
<td>60%</td>
<td>10%</td>
</tr>
<tr>
<td>11 Managers</td>
<td>55%</td>
<td>45%</td>
<td>82%</td>
<td>82%</td>
<td>27%</td>
<td>27%</td>
<td>36%</td>
<td>73%</td>
<td>27%</td>
</tr>
<tr>
<td>12 Seniors</td>
<td>67%</td>
<td>58%</td>
<td>58%</td>
<td>58%</td>
<td>42%</td>
<td>17%</td>
<td>17%</td>
<td>33%</td>
<td>17%</td>
</tr>
<tr>
<td>5 Juniors</td>
<td>60%</td>
<td>62%</td>
<td>20%</td>
<td>20%</td>
<td>42%</td>
<td>20%</td>
<td>0%</td>
<td>20%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Table 6

Summary of Selected Type Frequencies in MAS Hierarchical Subgroups

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>I</th>
<th>S</th>
<th>T</th>
<th>J</th>
<th>IS</th>
<th>EN</th>
<th>TJ</th>
<th>ISTJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Partners</td>
<td>46%</td>
<td>31%</td>
<td>62%</td>
<td>77%</td>
<td>15%</td>
<td>38%</td>
<td>54%</td>
<td>15%</td>
</tr>
<tr>
<td>37 Managers</td>
<td>54%</td>
<td>54%</td>
<td>78%</td>
<td>81%</td>
<td>35%</td>
<td>27%</td>
<td>65%</td>
<td>24%</td>
</tr>
<tr>
<td>43 Seniors</td>
<td>49%</td>
<td>51%</td>
<td>88%</td>
<td>81%</td>
<td>23%</td>
<td>23%</td>
<td>74%</td>
<td>16%</td>
</tr>
<tr>
<td>16 Juniors</td>
<td>63%</td>
<td>31%</td>
<td>69%</td>
<td>75%</td>
<td>13%</td>
<td>19%</td>
<td>69%</td>
<td>13%</td>
</tr>
</tbody>
</table>

The data in Table 4 indicate that within audit practice a process of type selection is operating such that introverted, sensing, thinking, and judging types are more likely to be successful (i.e., promoted) than other types. This conclusion is supported by the following facts.

1. There is more diversity of type within audit junior and senior ranks than within audit partner and manager ranks where the ISTJ type is most pronounced. Indeed, both the audit partner and manager subgroups have considerably higher frequencies of introverted, sensing,
thinking, and judging types than do either the audit senior or junior subgroups. The audit partner and manager subgroups are remarkably homogeneous in respect to their high proportions of IS, ST, TJ, STJ, and ISTJ types. In contrast, there are significantly (p<.01) fewer of these types among seniors and juniors. The homogeneity within upper ranks of the audit hierarchy is most clearly evident from the fact that the two STJ types, i.e., ISTJ and ESTJ, together account for the majority of audit partners and managers. Moreover, visual inspection of the data in Table 4 indicates the frequency of STJ types increases at each hierarchical level.

2. The strongest pattern of type selection within the audit specialization is evident in the sensing-intuitive (S-N) dichotomy. The frequency of sensing types increases in each successive hierarchical rank from a low of 41% among juniors to highs of 70% and 80% among audit managers and partners respectively. Conversely, the frequency of intuitive types decreases with hierarchical advancement.

3. Introverted sensing types are increasingly frequent in successive audit ranks. In fact, there are significantly (p<.01) more introverted sensing types and significantly fewer extraverted intuitive types among audit partners and managers than among audit seniors and juniors.

The foregoing analysis indicates that hierarchical advancement in auditing is partially explained by a type selection process. In general, it appears that introverted, sensing, thinking, and judging types have greater "partnership potential" in audit practice than do the opposite types. In particular, the ISTJ type appears to be best suited for success in auditing. It is important to note that these conclusions are highly consistent with type theory as well as with previously reported prescriptions and research. It should also be observed that according to type theory and research, typological preferences are generally stable over time (Stricker & Ross, 1962). Accordingly, it follows that auditors do not become ISTJ types as they become successful, but rather that auditors who are ISTJ types frequently become successful. As a practical matter, the high frequency of ISTJ's among successful auditors is less likely to be a result of socialization or type development than a result of type selection and auditor turnover.

The frequencies of selected types within tax and MAS
hierarchical subgroups are presented in Tables 5 and 6 respectively. The data in these tables indicate a potentially important difference between the patterns of type selection in tax and MAS and the pattern observed in the audit specialization. Within both tax and MAS specializations there is an increasing frequency of extraverted intuitive types in successive hierarchical ranks. This pattern is contrary to the decrease of extraverted intuitive types and the marked increase in introverted sensing types within the audit specialization. These findings appear to indicate that extraverted intuitive types may be better suited for hierarchical advancement in tax and MAS than in auditing. Moreover, since migration frequently occurs from auditing to tax and MAS practice but not vice-versa, these results suggest that extraverted intuitive types may be migrating from auditing to tax or MAS where their typological strengths are more consonant with the nature of the work and with hierarchical advancement. Additional implications of the research will be discussed in the following section.

Discussion

The overall picture emerging from this exploratory study is that of a profession which attracts a wide variety of types but is distinguishable, nevertheless, by its high proportion of thinking-judging types and particularly ISTJ's. The research findings also support the contention that success, i.e., hierarchical advancement, in public accounting practice is related to type. These conclusions are consistent with type theory and provide evidence of the validity of the MBTI. Accordingly, it appears that knowledge of type may be effectively applied to improve staff recruitment and retention in accounting firms and to help accountants select practice specializations which are consonant with their type preferences.

Although the present study demonstrates the applicability of type theory and the MBTI to occupation research and specifically contributes to our understanding of the role psychological type plays in the accounting profession, several limitations of the study should be explicitly recognized. First, given the enormous complexity, variety, and richness of individual personality, any investigation of human differences is destined to be somewhat inadequate. Indeed, the field of personality theory and measurement is still very much in its
infancy. Although type theory and the MBTI are widely respected, their experimental nature should be emphasized and inferences based upon them should be viewed with due caution. Second, the results of the present study may also be considered somewhat speculative because of the procedures used in selecting the sample and obtaining MBTI scores. Since subjects were not randomly selected, it cannot be inferred that their responses to the MBTI are representative of practicing professional accountants in general. Moreover, the sample studied may be biased by the voluntary self-selection of participants, uncontrolled environmental factors associated with self-administration of the MBTI, and unmeasured social desirability factors. Finally, questions relating to hierarchical advancement and turnover are best addressed by longitudinal research. The present exploratory study is intended to be primarily of heuristic value and, to a certain extent, its merit should be judged by its success in stimulating subsequent longitudinal study pertaining to type selection in the accounting profession.

In spite of the acknowledged limitations of the present study and the need for future research, intuitive types are apt to perceive several possibilities for application of the research results. For example, the results suggest that auditor turnover may be reduced by hiring a greater proportion of ISTJ's than is presently the case. It is particularly interesting to note that although public accounting firms are apparently hiring more extraverted intuitive types than introverted sensing types as junior auditors, extraverted intuitive types are substantially less frequent than introverted sensing types in audit partner and manager ranks. The high turnover of extraverted intuitive types suggests that their proactive and innovative qualities are not consonant with the practical realities of an auditing career. Nevertheless, current hiring practices which emphasize the applicant's academic achievement and "personality" as evaluated in a series of interviews would seem to favor the hiring of extraverted intuitive types. Indeed, intuitive types tend to be high academic achievers and extraverts are likely to project more "personality" in interviews than are introverts. If public accounting firms wish to minimize turnover and increase the frequency of ISTJ's amongst auditors it would seem appropriate to alter their current hiring criteria. Alternatively, if
greater diversity of types among auditors is desired, public accounting firms may consciously strive to alter their present pattern of type selection so as to retain more extraverted and intuitive types.

Whether or how the patterns of type selection in the accounting profession should be changed are complex issues. The results of the present study indicate that although ISTJ's are particularly well suited for careers in public accounting, a wide variety of types are attracted to and are successful in the accounting profession. Furthermore, one could reasonably argue that public accounting firms are likely to be more effective in their diverse functions to the extent that they accommodate a complementary mix of psychological types. In this sense, the prescription of one set of personality characteristics for the ideal member of the profession is both naive and potentially dysfunctional. There are, however, important implications of the high frequency of ISTJ and similar types in the accounting profession.

At their best, ISTJ's possess many qualities which are needed and desirable among professional accountants. For example, ISTJ's tend to be highly dependable, serious, realistic, thorough, systematic, logical, analytical, decisive, persevering and careful about facts and details. At their worst, however, ISTJ's may possess characteristics which are implicit in the somewhat negative stereotype of accountants and which can be counterproductive in many professional activities. For example, ISTJ's may be somewhat aloof and impersonal, may experience difficulty in communicating and relating with others, and may be seen as hard-hearted, inflexible, closed-minded, and resistant to change. The high frequency of ISTJ and similar types among audit managers and partners suggests that successful auditors may be susceptible to the above stereotypical shortcomings. Ironically, when an auditor becomes a manager or partner his responsibilities call for increased involvement in client and public relations, personnel matters, and a variety of other activities which require greater creativity, interpersonal competency and communication skills than he may have previously developed. An understanding of type should help successful accountants avoid these "pitfalls of promotion" by encouraging them to apply their natural strengths while simultaneously striving to minimize potentially dysfunctional tendencies.
The most valuable contribution of this research may be to encourage the application of type theory and the MBTI in the organization development and continuing education programs of the accounting profession. Self-knowledge of type is the starting point for type development which should in turn enable accountants to be increasingly effective and satisfied in their work. Knowledge of type can also reduce organizational and interpersonal conflict and lead to more effective teamwork by helping accountants recognize the dangers of type similarity and the complementary advantages of typological diversity. When the high frequency of ISTJ and similar types among the most powerful members of the accounting profession, i.e., audit partners, is contrasted with the extraverted and intuitive preferences of most junior auditors and tax and MAS partners, much of the interpersonal and organizational conflict and personnel turnover in large public accounting firms is understandable. As a member of the accounting profession (the author is a CPA and an ENFP who migrated from audit to MAS practice and subsequently left public accounting for an academic career), I am convinced that type theory and the results of this investigation can be useful in addressing these problems and increasing the effectiveness of professional accountants in their diverse and demanding roles.

References


McCaulley, M. H. Myers-Briggs Type Indicator - Under-
standing the type table. Gainesville, Florida: Center for Applications of Psychological Type, 1976.

McCaulley, M. H. Application of the Myers-Briggs Type Indicator to medicine and other health professions (Monograph I). Gainesville, Florida: Center for Applications of Psychological Type, 1978.


THE RELATIONSHIP BETWEEN PROBLEM-SOLVING STYLES AND PROBLEM-SOLVING SKILLS AMONG ENTREPRENEURS

Frank Hoy
University of Georgia

and

Bobby C. Vaught
Southwest Missouri State University

The entrepreneur has fascinated researchers for generations. Numerous studies of samples of entrepreneurs have been surprisingly consistent in identifying characteristics which distinguish this group from other members of society (Pickle, 1964; McClelland, 1965; Davids, 1963; Van Voorhis, 1980). The interest in entrepreneurs stems from their impact on our society and economy relative to their proportion of the population.

An entrepreneur has been defined as "an independent operator who undertakes the risks and management of his own business" (Broom and Longenecker, 1975). Various studies sponsored by government agencies such as the Small Business Administration and the National Science Foundation have concluded that small businesses have been the primary source of innovations and of new job creation in the private sector of the economy. Thus, researchers have focused on the characteristics of successful entrepreneurs in order to derive the societal benefits from those individuals who possess or can develop those characteristics. Among the characteristics frequently identified in studies of entrepreneurs are sense of independence, preference for moderate risk, need for achievement, desire for responsibility, energetic, goal orientation, etc.

In recent years, entrepreneurs have been studied for another reason. As managers of small businesses, they provide a direct link between managerial styles and organizational outcomes. Students of organizational behavior have always been interested in the predictability of man's motivations, values, personality, attitudes, etc. And one of the most perplexing areas of interest has been man's capacity to behave as he intends to behave. This has led to research into the response capabilities of individuals in organizations. Pickle and Friedlander (1967) urged that the characteristics, attitudes, and behaviors of managers in small enterprises be examined because there is a higher probability of those managers directly influencing the accomplishment of organizational goals than would
managers in larger firms. In the study reported in this article, data were gathered from a group of entrepreneurs to determine whether relationships existed between their psychological types and their interpersonal managerial skills.

Hypotheses

Porter, Lawler, and Hackman (1975) see interpersonal behavior as a combination of disposition and capabilities. If an individual is disposed to act in a certain way but lacks the skills or interpersonal abilities necessary to carry through, then interpersonal effectiveness may be lacking. Likewise, an individual may have the capability of interpersonal expression but choose not to use it.

This idea of interpersonal behavior (disposition x skills) can be applied to problem-solving behavior among entrepreneurs. Several management scholars have concluded that Jung's (1923) four psychological functions effectively describe managerial problem-solving styles (Mitroff and Featheringham, 1974; Hellriegel and Slocum, 1975). Managers perceive data, resulting in problem selection, through either sensing or intuition. They arrive at judgments through either thinking or feeling. The four possible combinations of these functions (ST, NT, SF, and NF) represent managerial problem-solving styles.

Since the entrepreneur must solve many day-to-day problems by working through and with other people in an organization, then interpersonal skills are certainly important for goal accomplishment. Given a disposition to solve problems in a particular manner, what type of interpersonal skills are needed for effective implementation? In other words, is there a relationship between problem-solving styles and interpersonal problem-solving skills among entrepreneurs? Additionally, are there relationships between the remaining psychological type variables and interpersonal skills? Specifically, the following hypotheses were tested in this study:

1. A negative relationship exists between an entrepreneur's disposition toward introversion and the entrepreneur's skill in solving problems interpersonally.

2. A positive relationship exists between an entrepreneur's disposition toward intuition and the skill in solving problems interpersonally.
3. A positive relationship exists between an entrepreneur's disposition toward feeling and the skill in solving problems interpersonally.

4. A positive relationship exists between an entrepreneur's disposition toward perceiving and the skill in solving problems interpersonally.

Method

Several authors have demonstrated that managerial problem-solving styles can be derived from scores on the Myers-Briggs Type Indicator (Kilmann and Herden, 1976; West, 1979; Keirsey and Bates, 1978). Interpersonal problem-solving skills of managers can be measured using the Index of Interpersonal Communicative Competence (IICC) (Vaught, 1979). Consequently, MBTI's and IICC's were administered to thirty-nine entrepreneurs enrolled in extension seminars in small business management offered by the University of Georgia.

Form F of the MBTI was used to obtain psychological type scores. Scores were converted to continuous scales in accordance with Myers (1962). As Kilmann and Mitroff (1975) have noted, the Myers-Briggs Type Indicator purports to measure an individual's preference for taking in data and making a judgment, which is the essence of problem-solving. As mentioned previously, investigations of small business managers have found consistent characteristics associated with entrepreneurship. Hoy (1979) observed in samples of entrepreneurs in Texas and Georgia that there were pluralities of thinking types and judging types. The entrepreneurs studied demonstrated preferences for methodical, task-oriented, problem-solving styles.

The Index of Interpersonal Communicative Competence is a test designed to measure a supervisor's interpersonal communication skills in a simulated situation. The respondent taking the test is asked to assume the role of an office manager for a fictitious company having the supervisory responsibility for eight employees. The IICC contains eight "typical" supervisory/subordinate problem situations. For each of the eight the respondent chooses one of five alternatives that best describes his or her communicative reaction. The test can then be scored from a low level of communicative competence (score of 8) to a high level of communicative competence (score of 40).
The score obtained should be a reflection of the supervisor's interpersonal capability to solve a series of employee-related problems seen as important to both the organization and the subordinate. Theoretically, a high score indicates the supervisor's capability to discriminate between low levels and high levels of empathy, confrontation, and guidance. A detailed discussion of the theory and construction of the IICC can be found in Vaught (1979).

The four scores from the MBTI (Form F) and the score from the IICC were subjected to a Pearson correlation analysis to test for significant relationships. The results are discussed below.

Results

Table 1 presents the nominal problem-solving classifications of the thirty-nine entrepreneurs according to their MBTI scores. The most frequently occurring style in this group was NF, exactly one-third of the total. A majority of the respondents, however, scored as thinking types. As have been found in previous studies (Hoy, 1979), a plurality of managers were classified as TJ's (14 of 39 managers).

Table 1

Managers' Problem-Solving Styles

<table>
<thead>
<tr>
<th>STYLE</th>
<th>NUMBER</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST</td>
<td>10</td>
<td>26%</td>
</tr>
<tr>
<td>SF</td>
<td>5</td>
<td>13%</td>
</tr>
<tr>
<td>NF</td>
<td>13</td>
<td>33%</td>
</tr>
<tr>
<td>NT</td>
<td>11</td>
<td>28%</td>
</tr>
<tr>
<td>TOTALS</td>
<td>39</td>
<td>100%</td>
</tr>
</tbody>
</table>

The results of the correlational analysis are reported in Table 2. The only significant relationship is between the IICC and the Sensing-Intuition scale (S-N) of the MBTI. A coefficient of .32 indicates a moderate relationship between interpersonal skills as measured by the Index of Interpersonal Communicative Competence and the S-N dimension of the Myers-Briggs Type Indicator. In other words, the entrepreneur who prefers to perceive his or her environment through intuition, imagination, and
inspiration also possesses the interpersonal problem-solving skills to implement such a disposition.

Table 2
Pearson Correlation Coefficients

<table>
<thead>
<tr>
<th></th>
<th>E-I</th>
<th>S-N</th>
<th>T-F</th>
<th>J-P</th>
</tr>
</thead>
<tbody>
<tr>
<td>IICC</td>
<td>-.05</td>
<td>.32*</td>
<td>.11</td>
<td>.05</td>
</tr>
</tbody>
</table>

*p<.05

No significant relationships existed between the IICC and the remaining three indices of the MBTI. Specifically, entrepreneurs' scores on Extraversion-Introversion (E-I), Thinking-Feeling (T-F), and Judgement-Perception (J-P) were not significantly related with scores on the Index of Interpersonal Communicative Competence. However, it is interesting to note that the coefficients for E-I, T-F, and J-P are all in the hypothesized directions. Thus, although the entrepreneur may be disposed to focus on the outer-world of people (Extraversion), may rely on empathy and feelings (Feeling), and is impulsive in decision-making (Perception), he or she does not necessarily seem to possess the necessary problem-solving skills to effectively implement such perceptions in a simulated situation.

Discussion

The hypothesized relationships between problem-solving styles and problem-solving skills were only partially supported by this study. The only significant relationship found was between the intuitive personality and a high level of interpersonal competence. Those entrepreneurs expressing a preference for intuition and imagination as opposed to their senses also possess a certain amount of interpersonal skills to handle behavioral problems within the organization.

If one accepts the premise that interpersonal problem-solving skills are important for organizational success then the remaining three findings of the study are confusing. Certainly one would expect entrepreneurs who possess a disposition to be extraverted, feeling, and perceptive to also be effective in handling interpersonal problems with their subordinates. Yet,
the subjects in this study do not conform to these hypotheses. The findings suggest that although some entrepreneurs are predisposed to act in an extraverted and supportive manner they do not necessarily possess the behavioral skills to solve interpersonal problems. Or perhaps, the entrepreneur in this study might prefer to exhibit the interpersonal behavior of empathy and guidance but have found them to be dysfunctional in their organization. Certainly if one finds a particular behavior (such as subordinate empathy, acceptance of subordinate behavior, etc.) ineffective he or she is likely to abandon that behavior. In the long run, entrepreneurs are not going to practice unrewarded behavior.

It may be that a demographic breakdown of the data would lead to the discovery of significant relationships (Rosenberg, 1968; Vaught, 1979). For example, respondent scores, especially on the IICG, may be functions of age or sex. Unfortunately, the small sample size in this study prohibits further breakdown for analysis.

It is not unexpected that relationships between psychological types and communication skills were not statistically significant. It has yet to be determined that definite and directional links exist between attitudes and behavior. Nevertheless, there are implications of this study which ought not to go without comment. Foremost is the need for an educator/counselor to consider the psychological predispositions of clients when working to improve their interpersonal skills. When dealing with entrepreneurs, there is evidence that TJ types will be overrepresented. Type theory suggests that these individuals frequently ignore the feelings of others, to their own detriment. Given the task/goal orientation of these types, programs aimed at improving their skills should provide concrete demonstration that they can be more successful in accomplishing organizational goals by upgrading their interpersonal communication behaviors.

References


Porter, L. W., Lawler, E. E., & Hackman, J. R. Behavior


A study of personality types using the Myers-Briggs Type Indicator (MBTI) was performed on all family practice residents during their training program. Following their graduation and entry into practice, a questionnaire was used to solicit information regarding their practice setting and satisfaction with professional and personal life. Comparing this information reveals some significant and interesting relationships. The strongest trends are for extraverts to express more satisfaction than introverts on both personal and professional satisfaction variables and for intuitive types to express more satisfaction on these variables than sensing types. We have also attempted to develop MBTI profiles for the satisfied vs. less satisfied physician and explicate the typical practice variables of these two groups. Such practice variables include hours worked per week, amount of night call, vacation days, size of group, and size of community.

For the past several years, we have administered the Myers-Briggs Type Indicator to all Family Practice staff, residents, and clinical personnel. The results have been used primarily to help all of us come to a respectful appreciation of differences among people—especially in working relationships.

In 1979, all graduates of the Family Practice Residency Program were mailed a questionnaire that, among other things, asked the graduates to rate their satisfaction with their personal lives and medical practice and to provide some data about their current practice settings.

By combining the questionnaire data with the MBTI data, it was possible to examine the relationships among the MBTI scales or types, reported satisfaction with personal life and practice, and various aspects of practice settings. This paper focuses on the significant and interesting relationships associated with the MBTI.
Previous papers have discussed the occurrence of Myers-Briggs Types in medicine as well as types in family practice residents and teachers. Our paper compares family physician satisfaction with Myers-Briggs personality type and work setting.

Method

Two sets of questionnaire variables were used in this study. The satisfaction variables were taken from the first eight items on the questionnaire in which the respondents were asked to rate the following on a 5-point scale from "unsatisfactory" to "excellent": (1) satisfaction with ability to practice effective Family Medicine (effectiveness); (2) personal satisfaction from Family Practice (personal satisfaction); (3) professional satisfaction from Family Practice (professional satisfaction); (4) relationship with colleagues; (5) satisfaction with ability to have the type of family/social life desired (family/social life); (6) satisfaction with the amount of time and energy the practice requires (time and energy); (7) amount of satisfaction spouse expresses with current practice (spouse happiness); (8) satisfaction with overall preparation for Family Practice (training).

Practice variables refer to a set of questions in which the respondents were asked to indicate the average number of: (1) patients seen per day at clinic; (2) patients seen per hour at clinic; (3) clinic hours worked per week; (4) hours worked per day; (5) hours worked per week; (6) nights on call per week; (7) patients in the hospital per day; (8) days off taken per week; (9) vacation days allowed per year; (10) vacation days taken per year; (11) house calls per year; (12) minutes for lunch per day. Data on community size, group size, and group type were also included in practice variables.

The questionnaire was mailed to all 37 graduates of the residency program. The response rate for the questionnaire was 100%, but four respondents were excluded from the study because of missing MBTI or questionnaire data.

Satisfaction and MBTI

A factor analysis of the first eight items on the questionnaire suggested two dimensions of satisfaction, one representing Personal Satisfaction and one representing
Practice Satisfaction. A principal components analysis yielded two significant factors (eigenvalue < 1.0). Because initial unrotated factors are often difficult to interpret, varimax rotations were run on these two factors. The rotated factors had only distinctly high or low loadings for each variable, thus making them easier to interpret than unrotated factors. Simple sum scale or cluster scores were computed for the two dimensions Personal Satisfaction and Practice Satisfaction by selecting the variables with the highest loadings on each factor, adding up the satisfaction ratings for each variable in the set, and dividing by the number of variables in the set. To be sure that the items on each scale were consistently measuring one thing, internal-consistency reliabilities (Cronback's alpha) for the two scales were calculated. The internal-consistency reliabilities were .76 for Practice Satisfaction and .83 for Personal Satisfaction.

Three satisfaction variables had high loadings on the Personal Satisfaction factor: family/social life, time and energy, and spouse happiness. The E-I scale correlated negatively (r=-.30, p<.05), indicating that people who scored high on the E-I scale (i.e. introverts) expressed less satisfaction with their current family and social lives and expressed enough dissatisfaction on the time and energy and spouse happiness variables to result in a fairly low Personal Satisfaction cluster score. There were high positive correlations between the S-N scale and the time and energy (r=.52, p<.01), spouse happiness, (r=.41, p<.01) and Personal Satisfaction (r=.45, p<.01) scores, which suggests that the intuitive types were expressing more satisfaction on these variables than sensing types. There was also a significant correlation between the J-P scale and the time and energy variable (r=.31, p<.05 one-tailed) suggesting that people who scored high on that scale, perceptive types, expressed more satisfaction with the amount of time and energy required by their practices.

Four satisfaction variables had high loadings on the Practice Satisfaction factor: effectiveness, personal satisfaction, professional satisfaction, and training. Again there were negative correlations between the E-I scale and satisfaction variables. The correlations were significant for the effectiveness variable (r=-.34, p<.05) and the cluster score.
(r=-.33, p<.05), indicating that people who scored high on the E-I scale were more likely to say they were dissatisfied with their ability to practice effective family medicine and were expressing enough dissatisfaction on the other items to result in significantly lower Practice Satisfaction cluster scores.

The J-P scale had a positive correlation with the effectiveness variable (r=.32, p<.05 one-tailed) indicating that perceptive types were more likely to be satisfied with their ability to practice effective family medicine than judging types.

There was one satisfaction variable that did not load highly on either factor; that variable was relationship with colleagues. Rather than leave it out, it was decided to treat it as a third dimension of satisfaction and look at its relationships to the MBTI scales separately. Both the S-N and the T-F scales had significant positive correlations with relationships with colleagues (r=.44, p<.01 and r=.32, p<.05 one-tailed, respectively), indicating that people who scored high on those scales (i.e. intuitive types and feeling types) tended to express more satisfaction in their relationships with their colleagues than sensing types or thinking types.

It appears then, that introverts are more likely to express dissatisfaction with their ability to practice effective family medicine and to have the type of family/social life they desire. They also appear to express enough dissatisfaction with the other satisfaction items to achieve lower Practice Satisfaction and Personal Satisfaction cluster scores. Intuitive types are more likely to express considerable satisfaction with the amount of time and energy devoted to their practice, to say their spouses are very satisfied with their current practice, and to express enough satisfaction to achieve high Personal Satisfaction cluster scores. Perceptive types are more likely to be satisfied with their ability to practice effective family medicine and the amount of time and energy required for their practice, but the amount of satisfaction expressed on these and other items does not carry through to the cluster scores.

Satisfaction and Practice
For the second phase of this study, relationships between the satisfaction and practice variables were examined first, followed by the relationships of the MBTI scales to those practice variables that were significantly associated with satisfaction. Those practice variables that had significant correlations with the satisfaction cluster scores included: number of hours worked per week, number of hours worked per day, number of vacation days taken per year, community size, and group size. The correlations of the continuous MBTI scales with those practice variables were calculated.

The significant correlations for the E-I scale were again negative, with introverts having a stronger tendency to practice in small communities \( (r=-.37, p<.05) \) and to affiliate with small groups \( (r=-.29, p<.05 \) one-tailed). The T-F and J-P scales also had significant correlations with these practice variables, but in the other direction. In other words, feeling types were more likely than thinking types to practice in large communities \( (r=.30, p<.05 \) one-tailed) and perceptive types were more likely than judging types to practice in large communities \( (r=.29, p<.05 \) one-tailed) and affiliate with large groups \( (r=.32, p<.05 \) one-tailed).

The S-N scale had a significant positive correlation with the number of vacation days taken per year, suggesting that intuitive types were more likely to take more vacation \( (r=.44, p<.01) \).

The T-F and J-P scales showed significant negative correlations with number of hours worked. These correlations suggested that thinking types were more likely to work more hours both per day \( (r=-.38, p<.05) \) and per week \( (r=-.45, p<.01) \) than feeling types. Similarly, judging types were more likely to work more hours per day than perceptive types \( (r=-.36, p<.05) \).

To examine these relationships more closely, all variables were dichotomized and 2x2 tables were constructed. Chi-square analyses were run on each 2x2 table.

Community size was broken into metropolitan and nonmetropolitan areas. It should be pointed out that graduates who live in small suburbs (population less than 50,000) of metropolitan areas were considered metropolitan area physicians. Although the E-I, T-F,
and J-P scales each had significant correlations with community size, none of the 2x2 tables was significant. Nevertheless, it is worth pointing out that a higher proportion of I's, T's, and J's went into metropolitan areas.

As with Community Size, there were no significant Chi-squares for MBTI type by Group Size. While it is true that more I's and more J's affiliated with small groups, these relationships were less obvious here than they were with Community Size.

The dividing point for vacation was 17 days per year. Although these data supported the positive correlation between the S-N scale and the vacation variable, with a higher proportion of N's taking more vacation, the Chi-square for this table was not significant.

The T-F breakdown in relation to hours worked per day and hours worked per week did show significant Chi-square values. These data strongly supported the correlation seen earlier, with a high proportion of T's (10 out of 14) working nine or more hours per day, while a high proportion of F's (15 out of 19) worked less than nine hours per day. A similar trend was seen in the hours per week breakdown where a high proportion of T's (11 out of 14) were working more than 54 hours per week and a high proportion of F's (12 out of 19) were working less than 54 hours per week. Although the J-P breakdown for hours worked per day was not significant, it did support the negative correlation seen earlier with a much higher proportion of P's than J's working nine or fewer hours per day.

The analyses in this phase of the study, then, suggest that: (1) I's are more likely than E's to practice in small communities and affiliate with small groups; (2) P's are more likely than J's to go to large communities and affiliate with large groups; (3) N's are more likely than S's to take more vacation; and (4) T's and J's are more likely than F's and P's to work more hours per day and/or week.

Satisfaction Profiles

As a final step in this study, profiles of very satisfied and/or very dissatisfied physicians were developed. Respondents with the three highest Personal
Satisfaction cluster scores were said to represent very satisfied physicians. By averaging their data for each of the MBTI scales and the previously identified practice variables, a profile emerged of an INFP who works about 50 hours per week, takes call one night or less per week, takes 26 days of vacation per year, practices in a group of ten physicians, and lives in a town of 15,000 to 25,000 people.

The respondents with the lowest Personal Satisfaction cluster scores were used to develop a profile of a very unsatisfied physician. This profile is an ISFJ who works 57 or more hours per week, takes call two or more times per week, takes 12 days of vacation per year, practices in a group of three physicians, and lives in a town of 3,000 or less. It must be pointed out that while the physicians who express the most dissatisfaction do live in very small communities, a majority of our physicians living in very small towns do not express dissatisfaction.

Although the contrasts between these two groups of physicians are very striking, their generalizability is somewhat limited because of the small number of people in each group. To obtain more generalizable results, the entire sample was divided into two groups, again on the basis of Personal Satisfaction scores. The contrasts with this breakdown are much less striking, but are still worth reviewing. The less satisfied physicians are still ISFJ's. They work about 51 hours per week, take call about once per week, take 16 days of vacation per year, work in groups of seven physicians and live in communities between 10,000 and 20,000. The more satisfied physicians are INFP's who work about 54 hours per week, take call about once per week, take 24 days of vacation per year, work in groups of 14 physicians, and live in communities between 10,000 and 20,000.

The contrasts associated with nights on call and community size were lost with this breakdown. The hours per week contrast reversed in this case with the more satisfied physicians working more hours than the less satisfied physician. This was probably because they liked their work. The contrasts associated with the vacation and group size remained the same with less satisfied physicians taking less vacation and working in smaller groups.
Discussion

The analysis of the questionnaire data showed at least two dimensions of physician satisfaction—one representing personal life and one representing practice. Relationships with colleagues was treated as a third dimension. The relationships of these dimensions to selected practice variables and to MBTI types were examined and profiles of satisfied and dissatisfied physicians were developed. The strongest trends, although not always statistically significant, were for extraverts to express more satisfaction than introverts on both the personal and practice satisfaction variables, and for intuitive types to express more satisfaction on those variables than sensing types. This is similar to Quenki's (1975) finding that extraversion is associated with satisfaction, but different from her finding of no apparent relationship between the sensing-intuition dimension and satisfaction. However, introversion emerged as the dominant type for both satisfied and dissatisfied physicians in our study. This was probably due to the much larger proportion of I's than E's in our sample (see Table 1). Further research in this area with samples that more evenly represent all MBTI types is certainly merited.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>1974-1978 Graduates</th>
<th>Department of Family Practice</th>
<th>St. Paul-Ramsey Medical Center</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISTJ</td>
<td>ISFJ</td>
<td>INFJ</td>
</tr>
<tr>
<td>n=6</td>
<td>n=2</td>
<td>n=3</td>
<td>n=2</td>
</tr>
<tr>
<td>17.6%</td>
<td>5.9%</td>
<td>8.8%</td>
<td>5.9%</td>
</tr>
<tr>
<td>ISTP</td>
<td>ISFP</td>
<td>INFP</td>
<td>INTP</td>
</tr>
<tr>
<td>n=0</td>
<td>n=3</td>
<td>n=5</td>
<td>n=0</td>
</tr>
<tr>
<td>0.0%</td>
<td>8.8%</td>
<td>14.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>ESTP</td>
<td>ESFP</td>
<td>ENFP</td>
<td>ENTP</td>
</tr>
<tr>
<td>n=1</td>
<td>n=2</td>
<td>n=4</td>
<td>n=3</td>
</tr>
<tr>
<td>2.9%</td>
<td>5.9%</td>
<td>11.8%</td>
<td>8.8%</td>
</tr>
<tr>
<td>ESTJ</td>
<td>ESFJ</td>
<td>ENFJ</td>
<td>ENTJ</td>
</tr>
<tr>
<td>n=1</td>
<td>n=1</td>
<td>n=0</td>
<td>n=1</td>
</tr>
<tr>
<td>2.9%</td>
<td>2.9%</td>
<td>0.0%</td>
<td>2.9%</td>
</tr>
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</table>
References


USE OF THE FIRST 50 ITEMS AS A SURROGATE MEASURE OF THE MYERS-BRIGGS TYPE INDICATOR FORM G

Kate M. Kaiser
McGill University

Abstract

The Myers-Briggs Type Indicator (MBTI) is often not used in social science research because of the length of time it takes to administer it. Personality instruments are often used in addition to collecting other demographics. It has been suggested that the first 50 to 60 items of the 126-item Form G MBTI are an approximation of type. This study investigates the different ways that this shortened version would be suitable for research and teaching settings. For nominal type all 4 dimensions are congruent, with the S-N dimension having the highest (9%) dissimilarity. The actual score measures are not reliable as a proportion of the 126 item scores. It would be appropriate to use the first 50 items for nominal classification but the complete Form G is recommended for research involved with strength of the nominal type. Replication of this study is needed to validate the findings due to its unusually skewed sample.

The Myers-Briggs Type Indicator is used extensively in operationalizing the personality dimensions discussed by Carl Jung (Myers, 1962). In 1977 Form G of the instrument was made available. This version eliminated 40 items, bringing the number of items from 166 (Form F) to 126, and revised the thinking-feeling measure (Myers, 1977). While this significantly reduces the time for a respondent to take the Indicator, many researchers still find it time consuming to use because they often use it in addition to other instruments. The Center for Applications of Psychological Type, which aids researchers in the use of Myers-Briggs, has suggested that "the first 50 or 60" items of the Indicator may be used as an approximate measure of psychological type.¹ This study

¹This information appears on a one-page bulletin from Consulting Psychologists Press entitled, "Questions and Answers About the New Form G of the Myers-Briggs Type Indicator."
examines the use of the first 50 items of the instrument as a surrogate measure of Form G (126 items) in order to provide guidelines for validity and reliability in research settings. The shortened version can reduce the time needed for administering the instrument and therefore increase the response rate for social science data collection.

Method

Lower and middle management personnel were surveyed using the Myers-Briggs Type Indicator (MBTI) Form G. Selection of individuals was determined by an information systems manager. Respondents were given stamped self-addressed envelopes for completing and returning the MBTI at a time most convenient for them. This also assured them that participation was voluntary and confidential. Numeric identification codes were used instead of names. Of 134 questionnaires that were distributed, 100 were returned (75% response rate).

Results

Respondents were scored using two measures. First, the total 126 items were scored, difference scores were noted, and the nominal values of the four personality type dimensions were derived from these scores. Then, the first 50 items of the Indicator were scored and these scores were noted separately along with the type derived from these lower valued scores.

Comparisons using a standard statistical package (Nie et al., 1975) were made between the 126-item scoring and the 50-item scoring on a number of criteria. First, differences for each respondent were noted with regard to nominal type on the four dimensions varying combinations of the dimensions as: (1) the four types separately--(E or I, S or N, T or F, J or P), eight dimensions; (2) the middle two types (ST, NT, SF, NF) together; and (3) the four types together as a label--one of 16 possible combinations--e.g. ESTJ, ISTJ, etc. Then t-tests were used to show differences in score strength as a proportion of each maximum possible score and differences in the difference scores (E-I, S-N, T-F, J-P). This may be relevant for those researchers who are interested not only in whether an individual is a certain type but also how strongly he or she can be considered characteristic of that type.
Caution should be exercised in interpreting score strength on either form. From the MBTI, it is not clear whether large differences in score strength reflect a lack of development in the auxiliary function or a developed auxiliary function with a preference for the dominant function. Very low difference scores are clearly not as reliable as large difference scores between the two dimensions along a continuum. Therefore it is a concern that reducing the scale of measurement may also alter the intensity of the scores.

Differences of Nominal Type

Four types separately. Table 1 shows the percentage of respondents whose types are similar when looking at the 126 item scoring scheme as compared to the first 50 items. From this data 82% of the respondents do not change any nominal type. The S-N dimension is the lowest with 9% of the individuals changing. One can survey Table 2 to see that 7% of this 9% become N's. Of these, 5 have a difference score on the 126-item version of only 1. Therefore it is not surprising that their 126 type is not very reliable. Table 2 looks at the direction of change and notes difference scores from the 126 item test for each respondent value. The average difference is only 1.72 and the median and mode differences are both 2. There are only 3 data points with differences as large as 5 about which one might be reasonably concerned. The similarity between the 126 items and the first 50 items scoring is fairly stable.

Middle two types together. The perception and judgment functions in combination express four classifications of type: ST, SF, NT, and NF. If one used these middle two types, what changes might occur as a result of using the reduced 50 item version? The results are shown in Table 3.

Comparing the two treatments one sees less change looking only at the middle types than when these two middle types were discussed separately. The changes affect mostly the ST and NT. This is most likely due to the S-N changes noted in the previous section.

Differences of Numerical Scores Proportions

The actual 126 item score of each dimension (E, I, S, N, T, F, J, P) is compared to its equivalent score on
Table 1
126 Item and First 50 Item Congruence on Separate Types

<table>
<thead>
<tr>
<th>SCALE</th>
<th>%</th>
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<tbody>
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<td>96</td>
</tr>
<tr>
<td>S-N</td>
<td>91</td>
</tr>
<tr>
<td>T-F</td>
<td>96</td>
</tr>
<tr>
<td>J-P</td>
<td>95</td>
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<tr>
<td>Total*</td>
<td>82</td>
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</table>

*Includes some individuals changing on several dimensions.

Table 3
126 Item and First 50 Item Congruence on Middle Types (Number of Types)

<table>
<thead>
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<th>TYPE</th>
<th>FIRST 50</th>
</tr>
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<tbody>
<tr>
<td>ST</td>
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</tr>
<tr>
<td>SF</td>
<td>9</td>
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<tr>
<td>NT</td>
<td>35</td>
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<tr>
<td>NF</td>
<td>2</td>
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Table 2
Direction of Changes

<table>
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<th>SEPARATE DIMENSIONS</th>
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<tr>
<td>------</td>
<td>-----</td>
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<tr>
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<td>S to N</td>
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<tr>
<td>N to S</td>
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</tr>
<tr>
<td>T to F</td>
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</tr>
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<td>F to T</td>
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<td>J to P</td>
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<tr>
<td>P to J</td>
<td>4</td>
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<tr>
<td>TOTAL</td>
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2 = median

Table 2
Direction of Changes

<table>
<thead>
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<th>COMBINATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>E to I</td>
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<td>S to N</td>
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<td>S to N</td>
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<tr>
<td>J to P</td>
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<tr>
<td>TOTAL</td>
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<tr>
<td>J to P</td>
</tr>
<tr>
<td>TOTAL</td>
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</table>
the first 50 items as a proportion of the total possible points on that dimension. For instance, the maximum extraversion (E) points on the 126 item MBTI is 26. Using only the first 50 items the maximum E score is 17. Therefore someone scoring a 13 on their E dimension of the 126 would expect to have an equivalent score of 8 or 9 on the first 50. Maximum points are different for each of the eight classifications and vary by sex on the thinking and feeling scores. Table 4 shows data using a t-test that indicates variations on the numerical scores rather than only on the nominal type.

### Table 4

<table>
<thead>
<tr>
<th>Score</th>
<th>Prop.</th>
<th>Mean</th>
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<th>Signif.</th>
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<td>E</td>
<td>.0330</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>.0282</td>
<td>0.006</td>
<td></td>
<td></td>
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</tr>
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<td>S</td>
<td>.0047</td>
<td>.563</td>
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<tr>
<td>F</td>
<td>.0215</td>
<td>0</td>
<td></td>
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</tr>
<tr>
<td>J</td>
<td>.0143</td>
<td>.092</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>.0136</td>
<td>.044</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Propotion Mean Difference equals the absolute value of:

\[
\text{Av. Score Form G - Av. Score First 50 Items Form G} = \text{Max. Score Form G - Max. Score First 50 Items Form G}
\]

One can see that when using proportions as an equivalent measure, the null hypothesis that the scores are equal is rejected on all but one (the sensing) dimension even though the differences appear to be small on an absolute basis.

Another way of analyzing the numerical scores is to look only at the difference scores, i.e., the difference between the E score and its opposite—the I score. When one compares these 4 difference scores for both the 126 and 50 item versions they are already standardized. This precludes the need to standardize using proportions. Table 5 shows results of using a t-test to compare these
difference scores. Again most of the scores are significantly different. Only the E-I scores showed little difference.

Discussion

As a surrogate measure of type, use of the first 50 items of Form G is a valid measure. Comparing the nominal types, one sees few changes. If time is a consideration in administering the instrument and actual numerical scores are not a consideration, the first 50 items type classification is reliable.

For research purposes replication of the above study is warranted. The particular sample used is not evenly distributed across types. This respondent group is reflective of its business environment (64% sensing, 89% thinking and 80% judging). This strongly STJ group may not be as susceptible to differences as other more balanced groups. It is interesting to note that the very balanced dimension (51% extraverts and 49% introverts) had only 4% change.

There is little hesitation in using the 50 item version for the classroom or settings requiring small groups which are homogeneous or dissimilar.

For those interested in strength of scores for research purposes, use of the first 50 items is clearly not a comparable measure to those scores obtained from the total 126 items of Form G. Further research about preference toward and lack of development of the functions is needed before use of actual scores is meaningful despite the issue of differences noted in these two treatments.

The Myers-Briggs Type Indicator is a useful tool in many fields. Its proponents must be aware of its possible strengths and limitations.

References


CONFORMITY BEHAVIOR IN AN EXPERIMENTAL SITUATION
AS A FUNCTION OF PSYCHOLOGICAL TYPE

S. Keith Matthews, Duane I. Miller, and Thomas G. Carskadon
Mississippi State University

with
Alan Matthews, Max Weaver, David Hilton, and Bob McCarty

Several investigators (Carlson & Levy, 1973; Stone, 1975; Carskadon, 1979, among others) have stressed the need for behavioral validation of the Myers-Briggs Type Indicator, especially under controlled or experimental conditions of observation yielding data which can be systematically analyzed according to hypotheses derived from type theory and research. Some such studies have had considerable success (Carlson & Levy, 1973; Carskadon, 1979; Nechworth, 1979), some have found significant results only under certain conditions (Shapiro & Alexander, 1969), and some have had few or no significant findings (Stone, 1975; Vinkenes, Matthews, Bracy, & Carskadon, 1979). The preceding is by no means a complete review of such studies, and on the whole the research in the general area has been quite supportive of the validity of the MBTI; but further work of this nature would certainly be desirable.

An increasingly frequent area of MBTI research application has been social psychology, perhaps in part because of the critical effects psychological type appears to have on traditional variables in social psychology, and perhaps because of the relevance of research in this area to normal social encounters in which type may play a part.

One heavily researched area in social psychology is conformity. A complete review of the conformity literature would literally fill a book, but Asch's (1951) study has certainly become a classic—if not the classic—study in the field. On successive trials Asch gave subjects the task of viewing a line of a certain length and then looking at a set of three comparison lines to pick out the one identical in length to the first one that had been shown. True subjects were tested in groups with several other "subjects" who were actually confederates of the experimenter. Individual judgments were made out loud, with the true subject answering last. At first, the confederates gave correct answers, but then on

critical trials the confederates unanimously chose an incorrect answer. The exact figures varied with the experimental conditions used, but far more subjects conformed to the apparent majority and gave incorrect responses than did subjects given the same perceptual task alone, without other subjects or information. Many other conformity paradigms have been used, but Asch's was chosen as a model for the present study.

There has been some previous research relating conformity and psychological type, particularly extraversion-introversion. (Various different methods of inducing and measuring conformity were used in these studies.) Cooper and Scalise (1974) reported that conformity was consistent with the extravert's lifestyle but inconsistent with that of an introvert; in extraverts, cognitive dissonance seemed to be aroused by not conforming, while in introverts, conforming seemed to arouse dissonance. Norman and Watson (1976) found that extraverts were more tolerant than introverts of cognitive inconsistency resulting from expressing attitudes contrary to their actual beliefs. Ginsburg (1972, cited in Cooper & Scalise, 1974) found that extraverts were more likely than introverts to abandon their true opinions and conform to those of a unanimous group, although Snyder and Monson (1975) were unable to find differences between extraverts and introverts in social conformity behavior.

In a study of interpersonal conflict-handling behavior as a function of Myers-Briggs types, Kilmann and Thomas (1975) found that extraverts tended to be assertive and cooperative, handling conflicts through collaboration with others, while introverts tended to be nonassertive and uncooperative, handling conflicts by avoiding others. Feeling types tended to be nonassertive and cooperative, handling conflicts by accommodating others, while thinking types tended to be assertive and uncooperative, handling conflicts by competing with others. Finally Cooper (1976) found that sensing types tended to be more rigid and dogmatic than intuitive types, which would be similar to those traits found (Crutchfield, 1955, for instance) to be more characteristic of persons who conform.

To our knowledge there has been no previous investigation of conformity in an Asch situation as a function of psychological type determined by the MBTI. The purpose
of the present research was to carry out such a study and ascertain whether certain types as measured by the MBTI would differ significantly in their conformity behavior.

Method

Hypotheses

On the basis of a review of the available literature, it was concluded that E's could be expected to conform more than I's, F's could be expected to conform more than T's, and S's could be expected to conform more than N's. As a specific working hypothesis for the study, it was predicted that EF's, ES's, IN's, and IT's would fall sequentially on a continuum from greatest to least conformity, respectively. EF's and ES's were considered the types likeliest to conform, and IN's and IT's the types least likely to conform. Other type combinations were not investigated due to practical limitations on the number of subjects of different types who could be located and run as part of this study.

Subjects

Subjects were 32 male and 21 female undergraduate introductory psychology students at Mississippi State University. Participation in the study partially fulfilled a course requirement. All class members had been given Form G of the MBTI several weeks earlier. Only subjects with preference scores of 11 or higher on the scales in question were used, to help avoid those who might have responded randomly to the MBTI or whose type classifications were unlikely to be sufficiently stable. Fifteen such subjects in each category (EF, ES, IN, and IT) were randomly selected for participation in the study. Scheduling difficulties and dropouts reduced the final usable sample to 13 EF's, 15 ES's, 12 IN's, and 13 IT's, a total of 53 subjects.

Four male undergraduates unknown to the true subjects were used as confederates and were carefully trained for their roles.

Procedure

A modified Asch (1951) conformity situation was used. A complete and detailed description can be found in Matthews (1981). Each subject arrived at the experimental
room and was soon joined by four other "subjects" who were actually the confederates. The first subject who arrived (the only "true" subject) was asked to sit at the end of a row of chairs, which made it plausible for that subject to be called on last during the trials of the experiment, since questioning was always begun at the other end of the row.

The experiment was presented by the experimenter (a graduate student in psychology) as one in visual acuity, with subjects supposedly having been randomly selected from different classes. After it was established that each subject either had vision that was normal or corrected to normal, the experiment began. On each trial subjects were shown for 10 seconds a standard (reference) line printed on a card, after which the card was removed. Standard lines used on different trials ranged from 4 to 15 inches. Subjects were then shown a card with three comparison lines on it, one of which was identical in length to the standard line originally shown, and asked to say which line that was. The true subject always spoke last.

The first four trials were relatively easy, with the correct comparison line differing from the two incorrect comparison lines by at least two inches. The next two trials were considerably harder, with the incorrect comparison lines being within 1/2 inch of the standard line, and the next two trials were harder still, requiring discriminations of 1/4 inch. On the first four trials all confederates gave the correct answer. On the last four trials, all the confederates gave the same incorrect answer.

After all eight trials were run the true subject was interviewed to see if he or she knew any of the confederates and/or knew or suspected the true nature of the experiment. (None did.) The subject was then debriefed and asked not to talk about the experiment until all subjects had been run. Each true subject was run individually with the same experimenter and the same four persons serving as confederates.

Results

For each subject an adjusted conformity score was calculated by subtracting the number of errors made on the first four trials from the number of errors made
on the second four trials. (Only one subject made any
errors on the first four trials.) These adjusted con­
formity scores were then analyzed from the standpoint
of a four groups design, with MBTI types (EF, ES, IN,
and IT) being the classification variable.

A complete and detailed presentation of the results
can be found in Matthews (1981), while a briefer summary
appears below. Tables 1 and 2 show the adjusted confor­
mity scores for different subject groups, and a frequency
distribution of adjusted conformity scores for subjects
in each group. (In almost all cases, the adjusted con­
formity score equals the number of error responses, pre­
sumably due to conformity, on critical trials where the
true subject was confronted with a unanimous majority
who had given the same incorrect answer.)

Table 1

Adjusted Conformity Scores for Subject Groups

<table>
<thead>
<tr>
<th></th>
<th>ALL</th>
<th>ES</th>
<th>EF</th>
<th>IT</th>
<th>IN</th>
<th>ES+EF</th>
<th>IT+IN</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>53</td>
<td>15</td>
<td>13</td>
<td>13</td>
<td>12</td>
<td>28</td>
<td>25</td>
</tr>
<tr>
<td>MEAN</td>
<td>1.83</td>
<td>2.13</td>
<td>2.08</td>
<td>1.92</td>
<td>1.09</td>
<td>2.11</td>
<td>1.52</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.1</td>
<td>1.4</td>
<td>1.1</td>
<td>1.0</td>
<td>0.8</td>
<td>1.2</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Table 2

Frequency Distribution of Adjusted Conformity Scores

<table>
<thead>
<tr>
<th>SCORE</th>
<th>n=53</th>
<th>n=15</th>
<th>n=13</th>
<th>n=13</th>
<th>n=12</th>
<th>n=28</th>
<th>n=25</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5(10%)</td>
<td>3(20%)</td>
<td>2(15%)</td>
<td>0( 0%)</td>
<td>0( 0%)</td>
<td>5(18%)</td>
<td>0( 0%)</td>
</tr>
<tr>
<td>3</td>
<td>9(17%)</td>
<td>3(20%)</td>
<td>1( 8%)</td>
<td>5(38%)</td>
<td>0( 0%)</td>
<td>4(14%)</td>
<td>5(20%)</td>
</tr>
<tr>
<td>2</td>
<td>18(34%)</td>
<td>4(27%)</td>
<td>7(54%)</td>
<td>3(23%)</td>
<td>4(33%)</td>
<td>11(39%)</td>
<td>7(28%)</td>
</tr>
<tr>
<td>1</td>
<td>14(26%)</td>
<td>3(20%)</td>
<td>2(15%)</td>
<td>4(31%)</td>
<td>5(42%)</td>
<td>5(18%)</td>
<td>9(36%)</td>
</tr>
<tr>
<td>0</td>
<td>7(13%)</td>
<td>2(13%)</td>
<td>1( 8%)</td>
<td>1( 8%)</td>
<td>3(25%)</td>
<td>3(11%)</td>
<td>4(16%)</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

An analysis of variance was performed on the data in
Table 1 for the groups EF, ES, IN, and IT. The results
approached but did not quite reach significance \(F(3,49)= 2.42, p=.077\), suggesting at least a marginal relation­
ship between type and conformity. Planned comparisons
were then made between each group and each of the other
three. These revealed significant differences between
IN's and ES's \((t(49)=-2.44, p<.05)\) and between IN's and EF's \((t(49)=-2.23, p<.05)\). Thus IN's conformed significantly less than ES's and EF's. The difference between IN's and IT's approached significance \((t(49)=1.89, p=.065)\). All other contrasts were nonsignificant. An eta test performed to measure the degree of relationship between psychological type and conformity behavior yielded a value of .36, with eta squared indicating that psychological type accounted for about 13% of the variance in conformity scores.

Finally a post hoc comparison was made in which the two types that had been expected to conform the most (EF and ES) were compared to the two types that had been expected to conform the least (IN and IT). The results of this comparison came within a slight fraction of significance \((t(49)=-1.97, p=.055)\).

Discussion

It seems clear that conformity did occur in the present study; in fact, more apparent conformity was observed than in Asch's (1951) original study. Furthermore, it seems clear that there was at least a marginally significant relationship between psychological type and conformity behavior. Had the sample been larger, the significance might have been more clear cut.

While type did seem to relate to conformity, the hypotheses in the present study concerning the ordering of the types were only partially correct. The hypothesized order from most to least conforming was EF, ES, IN, IT; the actual order was ES, EF, IT, and IN. The originally hypothesized order was somewhat arbitrary, as it was expected that E's, S's, and F's would conform more than I's, N's, and T's, respectively. EF's and ES's seemed likeliest to conform, and IN's and IT's least likely. When the two groups expected to conform most (EF and ES) were compared to the two groups expected to conform least (IN and IT), our expectations were essentially confirmed. What was surprising was that in this sample IT's did not differ from EF's or ES's, and IT's came very close to differing significantly from IN's. This may have been due in part to an unforeseen characteristic of the IT group: despite random selection, 9 out of 13 of the IT's were also sensing types--IST's.

The present study certainly suggests that the S-N
dimension may be a powerful variable in relating psychological type to conformity; S's may be a good deal more conforming than N's. That possibility was not tested directly in the present research, but it is interesting to speculate why the IN's conformed so much less than the ES's in the study at hand. S's are oriented toward concrete facts and tangible reality, especially, if they are ES's, external manifestations. N's are less tied to the concrete and more accepting of possibilities, especially internally based ones in the case of IN's. In the experimental situation used here, ES's had to choose between the internal memory of a stimulus in a somewhat difficult and ambiguous situation, versus the immediate, external, concrete and unambiguous reality of the responses of the four confederates; that ES's would choose to be more influenced by the latter fits type theory perfectly. The IN's, on the other hand, would be more open to alternative possibilities based on their internal memory of how a stimulus looked in the absence of the stimulus itself, and less swayed by the external fact of the confederates' judgments.

Certainly, working hypotheses for future research on type and conformity might benefit from examining whether N's conform less than S's. In general, research with samples large enough to analyze effectively all four MBTI scales, as well as combinations thereof (all 16 types), would be highly valuable and promising enough to justify the time and effort such a design would require.

The present study clearly suggests a relationship between conformity and psychological type. In the present study the magnitude of that relationship was not sufficient to make individual predictions, but rather would fall in a category useful for rough group prediction. The current research is, however, not only of interest per se, but also it provides good further support for the validity of the MBTI.

References


Carskadon, T. G. Behavioral differences between extraverts and introverts as measured by the Myers-Briggs Type Indicator: An experimental demonstration. *Research in Psychological Type*, 1979, 2, 78-82.


Nechworth, B. G. The effects on interpersonal space of friendly behavior and introversion or extraversion as measured by the Myers-Briggs Type Indicator. Unpublished master's thesis, Mississippi State University, 1979.


Vinkenes, M. S., Matthews, S. K., Bracy, O. L., & Carskadon, T. G. Physiological and behavioral differences between thinking types and feeling types under experimental conditions. *Research in Psychological Type*, 1979, 2, 73-77.
RESPONSE TO AN EMOTIONALLY BASED PERSUASIVE RELIGIOUS FILM AS A FUNCTION OF PSYCHOLOGICAL TYPE

Thomas G. Carskadon
Mississippi State University

This study investigated responses to an emotionally based persuasive religious film as a function of psychological type. A film called The Silent Witness (Rolfe, 1979) has been found to be an excellent stimulus for discussion in courses where Christian religion, paranormal phenomena, and/or scientific investigation of such are relevant issues. The film concerns the Shroud of Turin, believed by many to be the authentic burial shroud of Christ, miraculously bearing a detailed image of Christ's body. The film tends to be extremely effective in arousing interest and presenting one side of the controversy, making an apparently strong case for the authenticity of the shroud.

Informal observation suggested that certain types reacted more favorably to this rather unconventional film than others. This and previous findings concerning type and religion (Carskadon, 1977, 1979) led to the hypotheses of the present study: that N's, F's, and NF's would respond more favorably to the film than S's, T's, and NT's, respectively.

Method and Analysis

Ninety-eight introductory psychology students at Mississippi State University viewed the film and were asked to grade its content on a scale of A to F. Most (over two-thirds) gave it an "A" therefore two grade categories ("A" and "other") were used, and a chi-square analysis was made of the frequency of these grades among the MBTI types of interest.

Results and Discussion

While there were modest trends in the hypothesized directions, none reached statistical significance. This study was exploratory, and a larger, more careful investigation might yield better results, as both religious beliefs and susceptibility to persuasion can plausibly vary as a function of psychological type.
References


Carskadon, T. G. Psychological type and religious preferences. Research in Psychological Type, 1981, 4, 73-78.

This study investigated the relationship between psychological type and religious preferences among a sample of college students. A previous paper (Carskadon, 1977) reported on a similar study which led to the hypotheses of the present one. In that study, type comparisons were made between members of relatively conservative, fundamental religions (such as Baptist, Methodist, Church of Christ, etc.), a highly organized traditional religion (Catholic), relatively less conservative religions (Presbyterian, Episcopal, etc.), and atheists and agnostics. Significant differences were found on the S-N and T-F scales. The conservative, fundamental religions had about 70% sensing types, while the less conservative religions were about equally split on S-N, and the atheists and agnostics were over 70% intuitive types. The conservative, fundamental religions were about evenly divided on T-F, while the Catholics, Presbyterians, and Episcopalians were almost three-quarters feeling types; by contrast, the atheists and agnostics were about 80% thinking types. The present study sought to continue this line of investigation, and similar trends were hypothesized.

Method

Three hundred male and female introductory psychology students at Mississippi State University took Form G of the Myers-Briggs Type Indicator, along with a short questionnaire asking for their religious preferences. Participation in the study partially fulfilled a course requirement.

Results

Table 1 shows the number of persons in each religion category appearing on each side of the four MBTI scales. The religion categories are listed in descending order according to the number of persons preferring them, and in alphabetical order where those numbers are the same. (By an odd coincidence, for both Baptists and Methodists, the frequencies for E and S were identical to those for I and N, respectively; these are not misprints in the Table.)
For analysis, in the present study religions were grouped with specific local conditions in mind. Mississippi is very conservative religiously, as the results in Table 1 demonstrate. Several churches generally thought of as relatively conservative in a national context, draw many of the more liberal members of the local communities. For this reason, prior to data collection a grouping was
Table 2

Distribution of Religious Preferences on Each MBTI Scale
Only for Subjects with Preference Scores Greater than 15

<table>
<thead>
<tr>
<th>RELIGION</th>
<th>E - I</th>
<th>S - N</th>
<th>T - F</th>
<th>J - P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baptist</td>
<td>51 / 21</td>
<td>51 / 15</td>
<td>26 / 35</td>
<td>36 / 27</td>
</tr>
<tr>
<td></td>
<td>(71%/29%)</td>
<td>(77%/23%)</td>
<td>(43%/57%)</td>
<td>(57%/43%)</td>
</tr>
<tr>
<td>Methodist</td>
<td>20 / 13</td>
<td>25 / 12</td>
<td>18 / 14</td>
<td>24 / 9</td>
</tr>
<tr>
<td></td>
<td>(61%/39%)</td>
<td>(68%/32%)</td>
<td>(56%/44%)</td>
<td>(73%/27%)</td>
</tr>
<tr>
<td>Catholic</td>
<td>9 / 9</td>
<td>13 / 8</td>
<td>11 / 9</td>
<td>16 / 5</td>
</tr>
<tr>
<td></td>
<td>(50%/50%)</td>
<td>(62%/38%)</td>
<td>(55%/45%)</td>
<td>(76%/24%)</td>
</tr>
<tr>
<td>Presbyterian</td>
<td>16 / 2</td>
<td>9 / 2</td>
<td>5 / 9</td>
<td>9 / 7</td>
</tr>
<tr>
<td></td>
<td>(89%/11%)</td>
<td>(82%/18%)</td>
<td>(36%/64%)</td>
<td>(56%/44%)</td>
</tr>
<tr>
<td>Nondenominational</td>
<td>7 / 7</td>
<td>1 / 8</td>
<td>8 / 4</td>
<td>3 / 9</td>
</tr>
<tr>
<td></td>
<td>(50%/50%)</td>
<td>(11%/89%)</td>
<td>(67%/33%)</td>
<td>(85%/15%)</td>
</tr>
<tr>
<td>Episcopal</td>
<td>7 / 3</td>
<td>3 / 5</td>
<td>3 / 7</td>
<td>5 / 4</td>
</tr>
<tr>
<td></td>
<td>(70%/30%)</td>
<td>(38%/62%)</td>
<td>(30%/70%)</td>
<td>(56%/44%)</td>
</tr>
<tr>
<td>Church of Christ</td>
<td>3 / 1</td>
<td>2 / 1</td>
<td>3 / 3</td>
<td>2 / 4</td>
</tr>
<tr>
<td></td>
<td>(75%/25%)</td>
<td>(67%/33%)</td>
<td>(50%/50%)</td>
<td>(33%/67%)</td>
</tr>
<tr>
<td>Agnostic</td>
<td>2 / 2</td>
<td>1 / 4</td>
<td>4 / 0</td>
<td>1 / 2</td>
</tr>
<tr>
<td></td>
<td>(50%/50%)</td>
<td>(25%/75%)</td>
<td>(100/ 0%)</td>
<td>(33%/67%)</td>
</tr>
<tr>
<td>Lutheran</td>
<td>1 / 3</td>
<td>2 / 3</td>
<td>0 / 3</td>
<td>1 / 4</td>
</tr>
<tr>
<td></td>
<td>(25%/75%)</td>
<td>(40%/60%)</td>
<td>(0%/100)</td>
<td>(20%/80%)</td>
</tr>
<tr>
<td>Church of God</td>
<td>1 / 2</td>
<td>1 / 1</td>
<td>2 / 0</td>
<td>1 / 1</td>
</tr>
<tr>
<td></td>
<td>(33%/67%)</td>
<td>(50%/50%)</td>
<td>(100/ 0%)</td>
<td>(50%/50%)</td>
</tr>
<tr>
<td>None</td>
<td>0 / 1</td>
<td>0 / 1</td>
<td>1 / 0</td>
<td>1 / 2</td>
</tr>
<tr>
<td></td>
<td>( 0%/100)</td>
<td>( 0%/100)</td>
<td>(100/ 0%)</td>
<td>(33%/67%)</td>
</tr>
<tr>
<td>Unitarian</td>
<td>0 / 1</td>
<td>0 / 1</td>
<td>0 / 1</td>
<td>0 / 1</td>
</tr>
<tr>
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<td>( 0%/100)</td>
<td>( 0%/100)</td>
<td>( 0%/100)</td>
<td>( 0%/100)</td>
</tr>
<tr>
<td>Atheist</td>
<td>0 / 1</td>
<td>0 / 1</td>
<td>0 / 0</td>
<td>1 / 0</td>
</tr>
<tr>
<td></td>
<td>( 0%/100)</td>
<td>( 0%/100)</td>
<td>( 0%/ 0%)</td>
<td>(100/ 0%)</td>
</tr>
<tr>
<td>Church of Fear</td>
<td>0 / 1</td>
<td>1 / 0</td>
<td>0 / 1</td>
<td>1 / 0</td>
</tr>
<tr>
<td></td>
<td>( 0%/100)</td>
<td>(100/ 0%)</td>
<td>( 0%/100)</td>
<td>(100/ 0%)</td>
</tr>
<tr>
<td>Jewish</td>
<td>0 / 1</td>
<td>0 / 0</td>
<td>0 / 0</td>
<td>1 / 0</td>
</tr>
<tr>
<td></td>
<td>( 0%/100)</td>
<td>( 0%/ 0%)</td>
<td>( 0%/ 0%)</td>
<td>(100/ 0%)</td>
</tr>
<tr>
<td>ALL COMBINED</td>
<td>117 / 68</td>
<td>109 / 62</td>
<td>81 / 86</td>
<td>102 / 75</td>
</tr>
<tr>
<td></td>
<td>(63%/37%)</td>
<td>(64%/36%)</td>
<td>(48%/52%)</td>
<td>(58%/42%)</td>
</tr>
</tbody>
</table>

Note: Within religions, the number of persons with preference scores over 15 is not necessarily the same for each MBTI scale.

Christian/Episcopal/Lutheran/Unitarian/Jewish; and atheist/agnostic/none were analyzed using the chi-square statistic.
chosen that differed from that of the previous study. For conservative, fundamental religions, Baptists, members of the Church of Christ, and the Church of God were grouped together; a member of the Church of Fear was added after the data were collected. For relatively more liberal religions, Methodists, Catholics, Presbyterians, Episcopalians, nondenominational Christians, Lutherans, Unitarians, and Jews were grouped together—an admittedly mixed category, but consistently more liberal than the first under local conditions. Chi-square tests were used to analyze the distribution of these two groups across MBTI categories. Persons without such religious beliefs (agnostics, religion "none," and atheists) were combined and compared separately to the rest of the sample. Chi-square analyses were done two ways: one, with all subjects in each category included; and a second, with only those subjects scoring over 15 on the scale in question. The latter way was to eliminate persons with weak, possibly unstable preferences, or some of those who may have responded randomly to the MBTI. The number of these persons in each religion category appearing on each side of the four MBTI scales with preference scores greater than 15 is shown in Table 2.

Analyzing all subjects in the fundamentalist vs. more liberal religion categories, and all nonbelievers vs. all others, no significant results were found involving any of the MBTI scales.

Analyzing just those subjects with preference scores over 15 on the scales in question, the only significant result ($\chi^2(1)=5.53, p<.02$) was on S-N between fundamentalist and more liberal religions. Members of the conservative, fundamentalist religions were 76% S and 24% N, while members of the more liberal religions were 58% S and 42% N. Given the number of analyses run, however, the true significance of these results must be suspect.

Due to the unexpected nature of the above results and their contrast with those of the earlier (Carskadon, 1977) study, some post hoc analyses were made using the categories and comparisons used in the earlier study. For each MBTI scale frequencies of persons in the categories Baptist/Methodist/Church of Christ/Church of God/Church of Fear; Catholic; Presbyterian/Nondenominational
When all subjects were used, the only (marginally) significant \( (\chi^2(3)=7.75, p<.06) \) results were on S-N: both fundamentalists and Catholics were 62% N and 38% S, while more liberal religions were 49% S and 51% N, and nonbelievers were 30% S and 70% N. When only subjects whose preference scores were greater than 15 were analyzed, similar but stronger and clearly significant \( (\chi^2(3)=27.8, p<.001) \) results emerged: fundamentalists were 81% S and 19% N; Catholics, 62% S and 38% N; more liberal religions, 44% S and 56% N; and nonbelievers, 14% S and 86% N. Also, when analyzed this way there were significant results \( (\chi^2(2)=8.07, p<.02) \) on the J-P scale: fundamentalists were 61% J and 39% P; Catholics, 76% J and only 24% P; and more liberal religions, 43% J and 57% P. (Nonbelievers could not be included in this analysis, since over 20% of the cells would have had expected frequencies under 5. Nonbelievers were 43% J and 57% P.)

**Discussion**

The one conclusion suggested by the results with reasonable consistency is that conservative, fundamentalist religions have a greater proportion of sensing types than do relatively more liberal religions or groups of nonbelievers, particularly among persons with fairly strong preferences as to their psychological types. This would seem to fit well with type theory, as the more fundamental religions take a much more concrete, literal approach to the Bible and its teachings, which would be more natural for S's, while the more liberal religions take things less literally and more symbolically, emphasizing more the broader implications of Christian teachings and allowing room for more possibilities in their interpretations--an approach likely to have more appeal to N's. Persons with only mild type preferences might be more able than those with strong preferences to go either way, choosing a religion more on the basis of local and family tradition, friends, convenience, characteristics of local churches, etc., rather than the religion per se.

Previously noted tendencies for the more liberal religions to have more feeling types than the fundamentalist religions, and for nonbelievers to be predominantly thinking types, were not replicated here, although there were some modest trends in that direction. Also, in the present study there was a tendency not found before for fundamentalists and
Catholics to be more judging than members of more liberal religions.

Further research would be necessary to explore these issues more conclusively. Larger samples would be desirable, as they would allow a larger number of persons in each religion category, and make more detailed analysis by type feasible. To a certain extent combining religions into general categories tends to yield results which depend in part on just how those combinations are made. A useful approach, and one that would reduce the problem of dealing with local and/or atypical perceptions of religions, might be to study individuals' religious beliefs per se as a function of type, rather than their formal religions and/or denominations.

Both religion and psychological type reflect in most people longstanding, deep seated preferences in perceptions and values with broad applications to everyday life; it would certainly stand to reason that two such individual, far-reaching preferences as psychological type and religion would be significantly related to each other.

References


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May 5, 1980

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of your genius, your humanity,
and your life’s work.

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