ABSTRACT

This paper examines the relationship between personality type (MBTI) and manager’s preferences concerning the strategic planning process. From a study based upon 187 managers it is concluded that choices concerning configuration of the planning process reflect the imperatives presented by specific strategic situations rather than personality type. Conclusions are drawn for educators and trainers and those involved in planning practice.

INTRODUCTION

The paper examines the relationship between two topics that have been persistently addressed by ABSEL papers; personality theory and planning. The frequency with which these topics have been addressed by ABSEL is impressive, of the 1818 documents indexed in the Bernie Keys Library (2001) 1062 contain reference to personality, 24 of which refer to the Myers Briggs Type Indicator (MBTI), 964 to planning, 155 of which refer to strategic planning.

CONCEPTUAL FRAMEWORK

Strategic planning is a commonly used management process, employed by managers in both the private and public sector to determine the allocation of resources in order to develop the organizations’ financial and strategic performance. A survey of US and European companies by Bain and Co (2003) finding that strategic planning was used by eighty nine per cent of the sampled companies.

There appears to be general agreement among strategic planning researchers that the process consists of three major components; formulation (including setting objectives and assessing the external and internal environments, evaluating and selecting strategic alternatives); implementation and control (Hopkins and Hopkins, 1997). Similar components are present in the normative planning models provided by Chakravarthy and Lorange (1991) and Andrews (1980).

Within its use as a resource allocation process the strategic planning process can serve additional organizational roles; enabling organization-wide response to environmental change; protecting core technologies through helping to recognize and address uncertainties; providing an integrative device to address potential synergies and acting as a basis for divisional and business control (Grant, 2003, Lorange and Vancil, 1995, Ansoff 1988, Grinyer, et al, 1986). The strategic planning process also forms a part of the administrative context established by corporate management ‘to keep (or bring) the strategy generating process in line with the current concept of strategy’ (Burgelman, 1983, p66), the formal planning and control system acting to bound, encourage and shape the emergent aspects of strategy development (Kaplan and Beinhocker, 2003, Chakravarthy and White, 2002, Finkelstein and Hambrick, 1996).

CONFIGURING THE STRATEGIC PLANNING PROCESS

The relevance of strategic planning’s roles varies between organizations and for a particular organization may change over time. To accommodate such variation the stages that comprise the formal strategic planning process may be configured and organized in a variety of ways to emphasize particular roles. The balance of such design elements as centralization / decentralization (the commonly made distinction between ‘top down’ and ‘bottom up’ planning processes), can be determined to enable corporate control and the integration of business unit activities (centralization) or to encourage business unit innovation and adaptation to a turbulent environment (through decentralization) (Chakravarthy, 1987). A large number of empirical studies have established associations between the characteristics of planning processes and a range of environmental and organizational characteristics. A number of psychological factors have also been found to have implications for the configuration of the strategic planning process. The extent of cognitive diversity among upper-
echelon executives (variation in beliefs concerning goals for the organization and suitable competitive tactics) has been identified as inhibiting rather than promoting the comprehensive examination of current opportunities and threats and inhibiting rather than promoting extensive long range planning (Miller, Burke and Glick, 1998). Studies by Miller, Kets de Vries and Toulouse (1982) and Miller and Toulouse (1986) have addressed the implications of the locus of control concept finding that the more internal the orientation of the CEO the more scanning devices were used in their organization, also finding a significant correlation between CEO’s internal locus of control and the use of longer-term planning. In addition the future time perspectives of individuals (concerning future important events in the respondents’ personal life) has been related to preferences concerning planning horizons (Das, 1987).

PERSONALITY TYPE AND STRATEGIC PLANNING

Personality type theory is founded upon the work of the psychologist C G Jung (1923) and the development of a psychometric instrument the Myers-Briggs Type Indicator (MBTI). Over the last three decades various versions of the MBTI have been used to develop a substantial body of investigative research concerning associations between personality type and a range of managerial behavior. Wheeler (2001) reports on the wide use of the MBTI, forming a basis for over four thousand research studies and articles, with type being related to a range of managerial behavior (reviews by Gardner and Martinko, 1996 and Hammer, 1996). Particular psychological types have been related to preferences concern organizational form. Mitroff and Kilman concluded on the basis of a repeated set of studies with ‘hundreds of managers’ that managers of the same personality type have the same concept of an ideal form of organization which is ‘drastically different’ to that of managers of opposing personalities. (1975, p. 20).The study implies the possibility that personality type may be associated with differing, even opposing, preferences towards how strategic planning should be conducted. However, as is frequently the case with studies of personality type, Mitroff and Kilman’s own conclusion is bought into question by other studies involving psychological type. Kleiner (1983) found only modest relationships between managers’ personality type and perceptions of the acceptability of their work unit. Cowan (1991) exploring the relationship between psychological type and organization structure warns that personality is only one contingency factor and that depending on situation may be constrained or dominated in its effect.

Personality type theory examines an individual’s predisposition to four preferences which, under Jung’s theory, direct the use of perception and judgment. Descriptions of each preference are presented below (from Gardner and Martinko, 1996). Three of the preferences have been discussed in the literature of personality type as having implications for strategic planning.

The Extraversion - Introversion (E, I) preference refers to the direction in which attention and energy are most easily drawn. Extraversion implies wishing to experience things in order to understand them, preferring the ‘outer world’ of people and things to reflection. Introversion implies wanting to understand something before trying it and reflection rather than action. The Extraversion - Introversion dimension of personality has little mention in the literature concerning psychological type and planning.

Sensing and Intuition (S, N) refer to two ways of gathering information and understanding situations. Sensing implies a focus upon data available to the senses, a step-by-step approach to understanding, an orientation towards the present. Intuition implies a focus on the connections between sensing data, being drawn to the possibilities, patterns or theoretical explanations that will put specific data into context, a liking to see the overall situation, an orientation towards the future.

Thinking and Feeling (T, F) are two ways in which to organize and structure information and come to a conclusion. Thinking implies a preference for applying analytical and logical principles to make objective decisions, following clear and consistent principles. Those who prefer Feeling (F) may prefer to make decisions by reference to their own and others’ values, tending to encourage participation and consensus in decision making.

The implications of personality type are often examined by reference to pairs of preferences. Combinations of the Sensing – Intuition (S, N) and Thinking - Feeling (T, F) preferences have been examined for their association with non-operations based planning. Taggart and Robey (1981) speculate that such activity would be associated with an Intuitive - Thinking (NT) decision style. Similarly Hellriegel and Slocum (1980) and Mitroff and Kilman (1975) propose that an NT problem solving style is congruent with the role of long-range strategic planner. Haley and Stumpf (1989) also propose that NTs tend to emphasize longer-range plans and new possibilities, while often seeming more interested in planning than in implementation. In contrast individuals with a preference for Sensing – Thinking (ST) behaviors may tend to focus upon short-term problems as may Sensing – Feeling (SF) orientated individuals (Hellriegel and Slocum, 1975).

The fourth preference, Judging and Perceiving (J, P), refers to how individuals prefer to organize their external environment. Judging implies a preference for organization and structure and an environment that is orderly, planned or data in to context, a liking to see the overall situation, an orientation towards the future.

The fourth preference, Judging and Perceiving (J, P), refers to how individuals prefer to organize their external environment. Judging implies a preference for organization and structure and an environment that is orderly, planned or scheduled with definite goals and issues decided and settled. Perceiving implies flexibility and spontaneity, wanting decisions to emerge while deciding at the last minute. The Judging - Perceiving (JP) component of personality type also appears to have relevance for choices concerning planning. Kirby’s (1997) review of the MBTI literature concludes that those who prefer Judging (J) prefer to plan, both long-range and short-term, while those individuals with
a preference for Perceiving (P) prefer to keep their environment as open and unstructured as possible, trusting their ability to respond quickly to changing circumstances they prefer their decisions to emerge from the information-gathering process. Similarly Steckroth, Slocum and Sims (1980) find from a study of ninety six managers that those in the strategic planning function had higher scores for preferences concerning T and J. Reynierse and Harker (1995) propose that those with a preference for Perceiving tend to be resistant to precise planning.

An empirical study of strategic planners by Lang (1997) supports the conclusion that strategic planners may tend to a specific profile of personality type, finding for a sample of fifty three strategic planners that ENTJ was the modal type. Within the group Extraversion and Introversion were equally present, but Intuition was preferred to Sensing 2.5 to 1, Thinking over Feeling nearly 4 to 1 and Judging over Perceiving about 2 to 1. Lang concludes that many strategic planners have NTJ preferences, with Sensing more apparent for those whose planning roots are operational and in planners responsible for both planning and implementation.

An association between personality type and preferences towards the strategic planning process has a number of implications relevant to educators and trainers and also practicing managers.

The first set of implications concerns educators. Strategic management has become a common part of most undergraduate and post graduate business and management programmes. Text books that serve this part of the curriculum continue to present a large body of normative techniques which are frequently the tools of the strategic planner. The perspective presented by the texts is essentially that of formal strategic planning in which prior consideration is given to deciding corporate direction and analyzing the environment and resources as a prelude to decision making and eventual implementation.

The strategic planning model is associated with a formal process by which intended strategy is decided and stated in an explicit form prior to implementation. Such planning processes do not represent the only means through which strategy can be developed. Mintzberg and Waters (1985) propose a distinction between intended strategies (established before actions are taken and widely accepted by the organization’s actors, a process consistent with formal planning) and emergent strategy (arising from an interactive learning process that involves managers throughout the organization, displaying consistency in actions over time in the absence of intentions concerning those strategies). Such strategic action may precede changes in what has come to be regarded as the organization’s (intended) corporate strategy and may provide a basis for corporate renewal (Burgelman, 1983). Although purely intended and purely emergent strategies are expected to be rare phenomena, the two strategy approaches may coexist and can act concurrently to improve organizational performance (Grant, 2003, Brews and Hunt, 1999).

A consideration of personality type raises the question of the predispositions that students bring to the classroom and their consistency with particular modes of decision making, a preferred way of developing strategy that favors formal planning or emergence. Their individual progress in accepting and using the various concepts and techniques that constitute strategic planning and the wider content of strategic management may be influenced by such preferences. In addition educators and trainers often employ measures of personality type (the MBTI, Myers Briggs Type Indicator) to form teams for simulation exercises and to help derive conclusions from such exercises.

Secondly an association between personality type and preferences towards the strategic planning process has implications for those involved in management practice. Within organizations individuals who have particular influence in determining decision making processes may promote a process that is consistent with their type preferences. The CEO has been identified as particularly influencing corporate style and hence the role of strategic planning (Goold and Campbell, 1987) this influence can be expected to extend to the characteristics of the planning process. The CEO’s personality may have a particularly strong relationship with organizational characteristics in smaller firms (Miller and Toulouse, 1986). There are also implications for the wider constituency of managers involved in the strategic planning process. From an early study of planning and personality type Nutt (1976) concluded that managers initiating planning should be concerned with the acceptability of planning methods to members of the planning group, the wider set of individuals who participate in the planning process. Nutt advised that to avoid conflicts over methodology preferences concerning planning should be investigated before a planning effort is initiated. Planning processes may need to be consistent with the personality types of the participants involved in planning (Nutt, 1979).

A number of authors have suggested approaches to counter and capitalize upon the biases that different individuals are expected to bring to the planning process. Concerning the generation of strategy, rather than the design of the strategic planning process, Hurst et al (1989) refer to Miles and Snow’s typology proposing that the dominant coalitions of organizations should be composed to reflect the orientation necessary to a particular business strategy; for example Intuitives and Feelers may be appropriate to organizations with a Prospecting orientation, Thinkers and Sensors to Analyzing, a mix of Intuitives, Feelers, Thinkers and Sensors for Renewal. Rather than achieving a mixed team approach Lang (1997) argues for individuals to develop flexibility to counter the type based biases they may bring to planning situations.

THE STUDY AND ITS METHODOLOGY

To further develop understanding of the relationships between personality type and strategic planning preferences
a study was conducted based upon a sample of one hundred and eighty seven managers attending postgraduate courses in management. Each respondent completed a sixty item version of the MBTI and a separate questionnaire asking them to define (by Likert scales) how they would prefer to organize planning activity in each of three distinct situations briefly presented by case studies. The three situations were based upon Miller and Friesen’s (1977) archetypes, empirically derived sets of organizational and strategy-making variables. The three situations presented the respondents with a diverse range of strategic situations for which to consider the preferred configuration of planning processes. For this study the indicators of associated scanning and decision making behavior were removed from each of the archetypes to provide forty to fifty word cases. The three cases are summarized as follows:

Innovation, an organization that is run by an entrepreneur, highly changeable environment, proactive organization.

Diversified, an organization that provides products for a wide variety of markets, complex and changing environment.

Dominate, the strongest organization in its market, the organization’s external environment is not particularly challenging.

Using seven point Likert scales respondents described how they would prefer to organize planning in each situation as they addressed the following eight planning choices derived from the strategic planning literature:

1. Strategic development to follow precise plans widely accepted throughout the organization / Evolve strategic development through trial and error.

2. A planning process following an agreed schedule with written plans / Informal planning activity with unwritten plans.

Assuming a formal planning process is followed:

3. Centralization / Decentralization of goal setting

4. Centralization / Decentralization of strategy formulation

5. Frequency of monitoring strategic plans (monthly / yearly or less often)

6. The basis for controlling business units: Strict adherence to Profit Budget / Strategic Milestones

7. Basing strategy upon the company’s Internal Resources / Trends and Events in the External Environment

8. The importance of management techniques when developing plans (Essential – Unimportant).

Respondents were instructed to express their own preferences concerning planning activity, not the approach followed or advocated by their employment organization. In order to avoid the respondent’s course biasing responses the questionnaires were administered at the start of each course. The ordering of the three cases in each questionnaire was varied to counter order bias when addressed by the respondents.

RESULTS AND DISCUSSION

The Myers-Briggs Type Indicator (MBTI) provides a score for each of the four preferences that constitute personality type. In their reviews of the literature concerning type Kirby (1997) and Walck (1996) refer to the common use of function pairs (ST, NT, SF, NF) and single preferences (S-N, T-F, J-P) by personality type studies, concluding that function pairs, defined as preferences for information gathering (S, N) and information evaluating (T, F) can be linked to cognition and strategic decision making rather more readily than the more global meaning implicit in personality type.

Following the practice that prevails in management studies involving the MBTI, analysis followed the use of correlation based upon single preferences (S-N, T-F and J-P) and paired comparisons based upon combinations of the SN, TF preferences. The Extraversion - Introversion dimension of personality has little mention in the reviewed literature and is comparatively rarely used in management research (Gardner and Martin, 1996) consequently it is omitted from the analysis.

Following exploratory data analysis using graphical techniques a two-tailed test for correlation (using Pearson’s product moment correlation coefficient) was found to be appropriate, the test was based upon the respondents’ average scores for the three strategic situations. The Judging – Perceiving (JP) preference had a significant positive correlation (.157, .05 significance level) with higher planning formality (a planning process that follows an agreed schedule with written plans) and also with greater centralization of strategy formulation (.171). Both results are consistent with the (above) description of personality types that Judging implies a preference for order and structure. The Sensing – Intuition (SN) preference provided significant negative correlations between Sensing – Intuition and the frequency with which strategic plans should be monitored (.157) and also the importance of management techniques (.153). The negative correlations appear inconsistent with the expectation from type theory, Perhaps more importantly the significant correlations explain less than 3% of the variation in response to the planning questionnaire, this is shown by the coefficient of determination which was at best 0.029.
Table 1 presents the mean values and standard deviations for each of the factors included in the study; personality type and situation (the three case situations). Table 2 presents the results for Tukey’s test for multiple comparisons, a test for differences in sample means.

For personality type comparison of the means for preference pairs (ST, SF, NT, NF) finds significant differences (.01 significance level) for goal centralization, monitoring frequency and the importance of techniques when developing plans. Respondents demonstrating a preference for Sensing – Thinking (ST) have a comparative preference for goal centralization, with scores significantly different from those with Intuitive-Thinking type preferences. Respondents with an Intuitive – Thinking (NT) preference demonstrate a comparative preference for goal decentralization, significantly so compared to Intuitive – Feeling (NF) respondents. Those managers identified as having an Intuitive – Feeling (NF) preference have a mean score that indicates more frequent monitoring of strategic plans; significantly so when compared to Sensing – Feeling (SF) respondents, and attribute more importance to management techniques when developing plans, significantly so compared to those having ST preferences. These results were confirmed by analysis of the confidence intervals generated by the Tukey method.

Again the results appear mixed in their consistency with the expectation from the descriptions of personality types. The preference of ST respondents for goal centralization can be seen as consistent with the personality type descriptions, however the association between NF preferences and greater importance being attributed to management technique is inconsistent. Also, and particularly inconsistent, is the comparatively low rating for the importance of management techniques provided by ST respondents. The results for personality type identify some significant differences in managers’ choices for configuring the strategic planning process, however there are inconsistencies with the behavior implied by type descriptions.

The results of the Tukey test comparing responses for the three strategic situations (Innovation, Diversified, Dominates) show significant variation in planning preferences for five of the eight planning variables. For all three situations there are significant differences in response concerning planning intention, the choice between following precise plans and an emergent approach. For planning formality there are significant differences between the responses for the Innovation situation when compared to the Diversified and Dominates situations. Similarly there are significant differences between situations for the items concerning monitoring frequency, focus of analysis (resources – external environment) and the importance of management techniques when developing plans.

Overall the study provides some slight but conflicting evidence to support an association between planning preferences and managers’ personality type, stronger support is found for the conclusion that managers’ individual characteristics are of less significance than the characteristics of the specific situation they are considering in determining preferences towards the design of the strategic planning process. Similar conclusions concerning the predominant importance of situational factors can be found in other studies of personality type. Schweiger and Jago’s study (1982) in which subjects matched a choice of decision style to decision making scenarios concluded that personality type accounted for ten per cent of variance, the characteristics presented by situation thirty per cent. Variations in contextual cues may dominate the effect of personality type and act to specify appropriate managerial behavior (Ruble and Cosier, 1990).

CONCLUSIONS

For educators and trainers the study has three conclusions. There is only slight support for the use of the MBTI as a basis for anticipating students’ preferences towards strategic planning. The conclusion may extend to the wider area of study provided by strategic management.

Secondly, in this study the MBTI does not appear to provide a strong indicator of preferences towards the task of planning and consequently the MBTI may not be useful for selecting teams taking part in planning orientated simulations and interpreting team performance. The study’s success in evoking differing responses to situations presented by brief case studies suggests a third conclusion concerning the setting of decision contexts. Cases presenting strategic archetypes, even briefly described, can evoke differing responses from students. It appears that we can readily establish differing decision contexts, contexts that evoke differing responses, through the scenarios we use with students attending our courses.

For managers involved in strategic planning the study provides the conclusion that personality type is of less importance than the characteristics of specific strategic situations in determining managers’ responses to configuring the strategic planning process. It is likely that within an organizational setting the role of personality type would be further limited. The present study is based upon the use of case situations that necessarily lack the pervasive effects of context and history present in organizational settings (Pettigrew, 1990). Such effects can be expected to further limit the relevance of personality type in the design of the planning process. Training may also act as a constraint, Catford (1987) finding that previous training predicts the problem solving approach adopted more than personality type.

There appears to be only slight justification for basing the design of the strategic planning process upon an analysis of participant’s personality types. The participants in a strategic planning process may have differing personality types however the implications of those differences for the acceptability of a particular configuration of the planning process appear to be limited and may not be consistent with expectations based upon personality type theory. Such
differences as arise may be better addressed by participants aiming to develop flexibility in their preferences rather than by attempting to establish planning teams with particular mixtures of members based upon personality type characteristics.

REFERENCES


“The Bernie Keys Library” “(2001) ABSEL


Kirby (1997).” Introduction: Psychological Type and the Myers-Briggs Type Indicator”, In, Fitzgerald & Kirby (eds.) Developing Leaders, Davies-Black, Palo Alto CA.


Developments in Business Simulation and Experiential Learning, Volume 33, 2006


Table 1. Personality Type and Situation. Mean Rating and Standard Deviation 
(based on 7 point Likert scale rating)

<table>
<thead>
<tr>
<th>Variable</th>
<th>ST (Mean, SD)</th>
<th>SF (Mean, SD)</th>
<th>NT (Mean, SD)</th>
<th>NF (Mean, SD)</th>
<th>Innov (Mean, SD)</th>
<th>Div. (Mean, SD)</th>
<th>Dom. (Mean, SD)</th>
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<tbody>
<tr>
<td>Planning intention</td>
<td>3.41 (1.78)</td>
<td>3.25 (1.72)</td>
<td>3.76 (1.75)</td>
<td>3.45 (1.81)</td>
<td>4.39 (1.69)</td>
<td>3.14 (1.68)</td>
<td>2.63 (1.43)</td>
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<td>Planning formality</td>
<td>3.13 (1.52)</td>
<td>2.84 (1.39)</td>
<td>3.19 (1.53)</td>
<td>2.86 (1.58)</td>
<td>3.78 (1.62)</td>
<td>2.56 (1.25)</td>
<td>2.38 (1.17)</td>
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<td>Goal centralization</td>
<td>3.43 (1.42)</td>
<td>3.98 (1.49)</td>
<td>4.45 (1.43)</td>
<td>3.74 (1.48)</td>
<td>3.76 (1.57)</td>
<td>4.02 (1.47)</td>
<td>3.76 (1.41)</td>
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<tr>
<td>Strategy centralization</td>
<td>3.52 (1.39)</td>
<td>3.75 (1.54)</td>
<td>4.31 (1.67)</td>
<td>3.65 (1.54)</td>
<td>3.71 (1.56)</td>
<td>3.88 (1.55)</td>
<td>3.57 (1.51)</td>
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<td>Monitoring frequency</td>
<td>2.85 (1.48)</td>
<td>3.27 (1.72)</td>
<td>2.90 (1.76)</td>
<td>2.66 (1.59)</td>
<td>2.39 (1.36)</td>
<td>2.55 (1.44)</td>
<td>3.87 (1.74)</td>
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<td>Control type</td>
<td>4.00 (1.46)</td>
<td>4.01 (1.56)</td>
<td>3.98 (1.69)</td>
<td>4.17 (1.62)</td>
<td>4.10 (1.56)</td>
<td>4.19 (1.51)</td>
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<td>Focus of analysis</td>
<td>4.49 (1.68)</td>
<td>4.65 (1.63)</td>
<td>4.93 (1.63)</td>
<td>4.72 (1.69)</td>
<td>5.09 (1.48)</td>
<td>5.22 (1.33)</td>
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<tr>
<td>Technique importance</td>
<td>2.91 (1.38)</td>
<td>2.67 (1.29)</td>
<td>2.69 (1.51)</td>
<td>2.35 (1.29)</td>
<td>3.00 (1.51)</td>
<td>2.21 (1.14)</td>
<td>2.49 (1.21)</td>
</tr>
</tbody>
</table>

ST  Sensing / Thinking (23 )
SF  Sensing / Feeling (74)
NT  Intuition / Thinking (14 )
NF  Intuition / Feeling (76 )

Innov. - Innovation (187)
Div. – Diversified (187)
Dom. – Dominates (187)
### Table 2. Personality Type and Situation.
Multiple Comparison of Means (Tukey)

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<td>ST*</td>
<td>NF*</td>
<td>NT*</td>
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<td>Strategy centralization</td>
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<tr>
<td>Monitoring frequency</td>
<td>NF*</td>
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<tr>
<td>Technique importance</td>
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<td>ST*</td>
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<td>Div*</td>
<td>Innov*</td>
<td>Innov*</td>
</tr>
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</table>

ST  Sensing / Thinking  
SF  Sensing / Feeling  
NT  Intuition / Thinking  
NF  Intuition / Feeling  

* p value ≤ .01