



The relationship between student's MBTI, preferences and academic performance at a Syrian university

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Abstract

Purpose – The main purpose of this paper is to find whether a correlation exists between students' natural preferences or what is known as psychological type as determined by the Myers-Briggs Type Indicator (MBTI); the extent of their enthusiasm measured by their level of "like" to the subject, and students' grade point average (GPA).

Design/methodology/approach – Data were collected from 89 students who took the MBTI inventory in five selected faculties at Damascus University in Syria. In order to rate the subjects' like or dislike level, the students were asked to complete a form prepared for this purpose. The students' GPAs were also included in the analysis.

Findings – Using paired sample *t*-test, the results indicate a statistically significant correlation between type of student and his/her faculty of study, type of student and overall study subject like, and type of student and his/her GPA. There was, however, a statistically significant correlation between various personality dichotomies of the type (Extraversion-Introversion, Sensing-Intuition, Thinking-Feeling, Judging-Perceiving) and faculty, individual subjects like, and GPA. The study also indicates a statistically significant correlation between study like and GPA, and faculty and GPA. The most critical conclusion from the study is that Sensing-Intuition dichotomy of the MBTI inventory has the strongest correlation to distribution of students among faculties, the subject's like or dislike, and the GPA. In addition, the higher the level of like for a subject, the higher the GPA is.

Research limitations/implications – The study results were based on a sample of students from a specific subject area of study. To validate the results of the study, future research is highly needed on a larger sample of students from different subject disciplines.

Practical implications – Empirically, this study provides decision makers of the higher education sector with relevant information regarding the intended future attempts to reform the university admission policy with regards to the career path.

Originality/value – The usefulness of MBTI inventory has not been assessed in the Arab countries before. This study is therefore considered as one of the initial studies in this field.

Keywords Syria, Damascus University, GPA, MBTI, Natural preferences

Paper type Research paper

1. Introduction

All students desire and intend to have a successful career after graduation. However, achieving this aim may require proper planning and selection of the right degree subject at university. Knowing one's natural preferences may help explain the current level of satisfaction and results achieved as well as helping students to decide which degree best suits their capabilities. At the individual level, the fact that university main subject selection is a key determinant in one's professional career, where chances of



success should be higher if the choice of domain matches natural preferences, makes it important to explore the natural preference. At the national level, this task will enhance governmental capacities in developing national plans for education and employment.

The theory of natural preferences and psychological type, which assumes that children are born with a predisposition to prefer some functions to others, was initially developed by Dr Carl Jung, a Swiss psychiatrist, at the beginning of the twentieth century (Briggs-Myers *et al.*, 2003). His work was further developed by Isabelle Myers and Katherine Briggs from the USA in the middle of the twentieth century. They developed what came to be known as the Myers-Briggs Type Indicator (MBTI). The last version of the MBTI was developed in 1998.

The essence of the "type" theory is that much seemingly random variation in behaviour is actually quite orderly and consistent, being due to basic differences in the way individuals prefer to use their perception and judgement. Perception involves the ways of becoming aware of things, people, events, or ideas. Judgement involves all the ways of coming to conclusions about what has been perceived (Briggs-Myers *et al.*, 2003). The MBTI is based on eight different preferences, which encompass different orientations of energy (Extraversion, E and Introversion, I), processes of perception (Sensing, S and Intuition, N), processes of judging (Thinking, T and Feeling, F), and attitudes towards dealing with the outside world (Perceiving, P and Judging, J). These preferences result in 16 different personality types, e.g. ISTJ (Introversion-Sensing-Thinking-Judging), ENTP (Extraversion-Intuition-Thinking-Perceiving) (Hautala, 2006).

According to Hautala (2006), Extraverted (E) people are usually social and they get energy from others. Conversely, Introverted (I) people lose energy when around others and need to spend more time alone than extraverts. Sensing (S) types usually live in the "here and now" and they tend to gather information via their five senses. They approach work step-by-step and focus on the details more than intuitive people. Intuitives (N) prefer to use their imagination and ability to see the big picture. Thinking (T) people tend to make decisions using impersonal points of logic. Feeling (F) persons make decisions based on others values and criteria. Judging (J) types prefer order and closure whereas Perceiving (P) types tend to be flexible and their lifestyle reflects a tendency to go with the flow.

The MBTI inventory had been used by millions of people in North America and elsewhere in the world (Briggs-Myers *et al.*, 2003). Even so, no clear border can be found between the holistic aims of most studies, more specifically; studies in this field can be distinguished mainly into studies that focus on type and field of study and those studies that focus on type and the work.

Based on data collected from 89 students at Damascus University, this study aims at finding whether a correlation exists between students' natural preferences, or what is known as psychological type as determined by the MBTI, the extent of their enthusiasm measured by their level of "like" to the subject, and students' grade point average (GPA).

2. Type and formal education, theoretical perspective for the study

It has been suggested that students should be taught in a mixture of learning styles; the style they naturally prefer, in order to avoid them being too uncomfortable with their studies, and the less preferred style in order to develop their skills (Felder and Brent, 2005). The recommendation to teach students sometimes in the style they prefer stemmed from studies of type effects in engineering education by a consortium of eight universities and the Centre for Applications of Psychological Type in Gainesville, Florida. It was noted that this diversity in teaching methods is likely to keep students

from being too uncomfortable during learning in their less preferred mode. This is also likely to help them develop the diverse strengths they will need to function effectively in their careers.

In a longitudinal study using the MBTI to determine natural preferences type and success in the engineering studies carried out at the University of Western Ontario, Rosati (1998) found that there are more ISTJs willing to be enrolled in the engineering programme and that students of the same type are more likely to graduate from the programme after four years.

Felder and Brent (2005) described statistically significant differences between MBTI types at the dichotomy[1] level. In the first-year GPA, Intuitors Outperformed Sensors (3.38 to 3.17, $p=0.09$), Thinkers Outperformed Feelers (3.34 to 3.09, $p=0.05$), and Judgers outperformed Perceivers (3.37 to 3.10, $p=0.02$). The same differences related to type were observed in calculus, physics, and chemistry grades. Introverts outperformed Extraverts in the overall GPA, but the difference was not statistically significant (3.32 to 3.20, $p=0.17$). It was noted that the Judgers outscored the Perceivers despite the latter group's generally higher Scholastic Aptitude Test (SAT) scores. This suggests that task orientation and persistence may count for more than scholastic aptitude in overcoming the challenges of the difficult first year of engineering (Felder and Brent, 2005).

Deberard *et al.* (2004) studied psychosocial predictors of first-year academic achievement and retention. University students were assessed on various dimensions. The amount of variance accounted for in first-year cumulative GPA (56 per cent) represents a substantial improvement in prediction over using high school GPA and SAT scores alone (25 per cent) (Wolfe and Johnson, 1995). However, similar to past research, some health and psychosocial variables (e.g. smoking, drinking, health-related quality of life, social support, and bad coping strategies) were related to retention. This model may be used as a tool to proactively identify students at high risk of poor academic performance during their first year and to provide direction regarding proactive intervention strategies for behaviours predictive of poor academic performance (e.g. smoking, binge-drinking, social support, coping). The first year represents a stressful transition for university students (Lu, 1994). Despite a multitude of social, academic, and emotional stresses, most university students successfully cope with a complex new lifestyle and achieve academic success.

Comparing the Thinkers' and Feelers' course grades in chemical engineering, it was noted that differences between the stronger Thinkers and the stronger Feelers were particularly dramatic. In addition, when comparing retention in university only 4 per cent of the Thinkers left chemical engineering during the five years of the study while 11 per cent of the Feelers did so after the second year and another 17 per cent did so after the third year. When assessing the usefulness of lectures among types, a higher number of Judgers than Perceivers found lectures extremely helpful to their learning. Another attitude difference was observed between Thinkers and Feelers when it comes to going to graduate school. Thinkers were more inclined than Feelers to go to graduate school (53 and 27 per cent, respectively) (Felder and Brent, 2005).

Psychological differences and psychomotor skills were found to impact the outcome in dental education. Evans and Dirks (2001) examined the relationship of admissions data and indicators of psychological constructs of the dental technology students with their psychomotor performance in first term dental laboratory courses. The dependent variables selected for the study were grades from three laboratory courses. Significant positive correlations ($p<0.05$) were noted between all laboratory grades and previous university hours, previous university GPAs, interview scores, field

dependence-independence scores (the cognitive style that refers to differences with regard to the preference of external, that is a higher tendency to accept percept or symbolic representation, or the environmental cues, compared to internal, that is associated with a greater restructuring ability from within, or the inner cues; Tinajero and Paramo, 1998), trust, straightforwardness, and dutifulness. These data indicate that individual differences in learning ability, visual and spatial perception, and personality do affect psychomotor learning and should be taken into consideration in the design and execution of teaching and training curricula (Evans and Dirks, 2001).

In a study by O'Neill *et al*, using the MBTI Form M which focused on obtaining a basic understanding of the personality types that seek and maintain positions as full-time endodontic educators, it was found that there are parallel personality preferences of residents and Faculty, which result in recommendations for early identification of academic interest, structured mentoring, Faculty development of residents, and the implementation of debt-reduction strategies to ease entry into the study of dentistry (O'Neill *et al.*, 2007).

When measuring group dynamics, Extraverts reacted more positively than Introverts when first confronted with the requirement to work in groups on homework. Intuitors performed significantly better than Sensors in courses with a high level of abstract content and the opposite was observed in courses of a more practical nature. Thinkers consistently outperformed Feelers in the relatively impersonal environment of engineering studies, and Feelers were more likely to drop out of the course even if they were doing well academically. Faced with the heavy time demands of the course and the corresponding need to manage their time carefully, Judgers consistently outperformed Perceivers (Felder and Brent, 2005).

MBTI inventory has been used in many countries for various purposes including academic research. However, the usefulness of MBTI inventory has not been assessed, as far as the researchers know, in a study in the Arab countries before. This study aims at finding out how MBTI can help future students to decide their study major by trying to discover a link between natural preferences, study likes and dislikes, and students' results using a group of students selected from Damascus University in Syria. Specifically, the study aims at:

- (1) determining natural preferences among a group of students in the last year of their study in certain faculties at Damascus University;
- (2) assessing the level of harmony students have with studying various subjects, as assessed by whether they expressed a like for their studied subjects or not; and
- (3) exploring a relation between:
 - MBTI type, dichotomies of Syrian student and the students overall GPA grades (in reference to Felder and Brent, 2005; Rosati, 1998);
 - MBTI type, dichotomies of Syrian student and his/her faculty of study (in reference to Deberard *et al.*, 2004); and
 - MBTI type, dichotomies, and overall and individual study like.

3. Methods of investigation

The research was implemented in five faculties at Damascus University. Damascus University is the oldest and largest University in the Syrian Arab Republic. Its first

Faculty, the School of Medicine, was founded in 1903. Since then the number of faculties and students increased until it became one of the largest universities in the region with a total of more than 100,000 students, and an annual enrolment rate of 20,000. The university is composed of 23 faculties and five institutes awarding undergraduate degrees as well as master and PhD degrees in many fields.

This study was carried out using questionnaires, interviews, and academic records. A primary research package was prepared. This package included an original self-scorable hard copy of the MBTI inventory Form M (93 questions), a translated Arabic copy of the form, and a questionnaire in Arabic asking the participant to rate their liking for their studies in 17 subjects and one on their overall liking for study. The translation of the MBTI inventory Form M was done by two separate external, inventory familiar, and linguistically competent persons who have a formal university degree in English language and literature. Both have taken the MBTI test before so they were able to accurately translate the English forms into Arabic. The two translations were compared and there was a good similarity between them. One of the authors of this study, who has been a certified and qualified MBTI administrator since 2008, adapted one of the translated Arabic versions for the research. To check on the accuracy of the translation, two external volunteers took the original English Form M version of the MBTI inventory and also the translated Arabic copy. Scoring was done separately and the results were the same.

There were 110 copies of the package distributed to participants. Each package contained a research informed consent paper, an introduction to the MBTI inventory paper, the translated Arabic Form M questionnaire, and the study likes and dislikes questionnaire. The selection of faculties from which to get a research sample was done based on the perception of the nature of subjects studied at different faculties. The aim was to select faculties which appear to have curricula that differ from each other in order to cover a wide range of diverse subjects. The sample included the following faculties: the Faculty of Education (Curricula Division), the Faculty of Fine Arts, the Faculty of Sciences (Physics Division), the Faculty of Pharmacy and the Faculty of Economics.

Criteria for the sample were as follows: first, in order to have a record of students' grades over several years, students included in the sample should have spent a number of years in the faculty, preferably until the final year; second, representation of both genders; third, reasonable distribution in terms of academic performance in the faculty based on grades achieved; and fourth, students who gave consent for the authors to get personal information and academic records from their faculties.

Due to poor coordination from faculties' administration and some lack of discipline and time management from students (except for the Faculty of Economics), multiple visits were necessary to get a reasonable number of participants. The total number of the research sample reached by the authors achieved is 107 (see Table I).

	Faculty of Education	Faculty of Fine Arts	Faculty of Sciences	Faculty of Pharmacy	Faculty of Economics	Total
Male	5	8	4	2	28	47
Female	15	7	11	10	17	60
Total	20	15	15	12	45	107

Table I.
Distribution of study sample according to faculty and gender

The academic records of participating students were made available by the faculties. The researcher got assistance from the Director of the Department of Students' Affairs in the Ministry of Higher Education who instructed the faculties to prepare them as quickly as possible. The academic records were available in three days.

Of the 107 cases, 14 were excluded from analysis from the Faculty of Economics (six were graduate students and eight gave back uncompleted forms), two from the Faculty of Education (uncompleted forms), one from the Faculty of Pharmacy (did not sign the informed consent), and one from the Faculty of Sciences (did not sign the informed consent). The total number of cases valid for analysis was 89 (see Table II).

Most students within the sample are young students. The age distribution within the sample is highlighted in Table III.

4. Findings of the study

Analysis was done using the Statistical Package for Social Sciences (SPSS) version 17. Descriptive statistics were done to determine distribution of sample among various MBTI types, type and GPA, dichotomy and GPA, type and study like, and dichotomy and study like. Correlation analysis and *t*-test were used to investigate the relation between type and GPA, type and overall and individual subject study like, and between each dichotomy and GPA, each dichotomy and overall and individual subject study like.

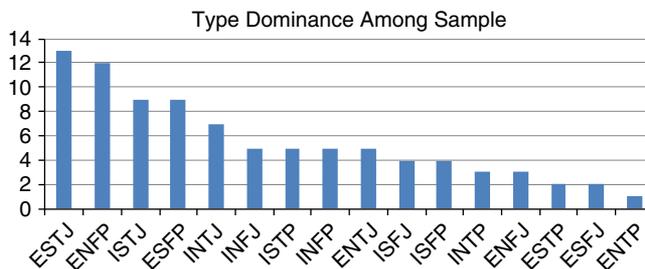
In Figure 1, the authors presented the overall MBTI type of the sample of the students in the last year of their study in certain faculties at Damascus University.

	Faculty of Education	Faculty of Fine Arts	Faculty of Sciences	Faculty of Pharmacy	Faculty of Economics	Total
Male	4	8	4	1	22	39
Female	14	7	10	10	9	50
Total	18	15	14	11	31	89

Table II.
Sample number and gender valid for analysis

Age	21	22	23	24	25	26	31	Total
Number	5	22	30	23	3	3	1	89

Table III.
Age distribution within the sample



Note: $n = 89$

Figure 1.
Distribution of the types in the research sample

At the dichotomy level (Extravert (E)-Introvert (I), Sensing (S)-Intuition (N), Thinking (T)-Feeling (F), Judging (J)-Perceiving (P)) results showed a fairly even distribution between dichotomies in the overall study sample. The distribution among faculties, however, presented clear differences between dichotomies. There were more of the Extravert, Sensing, Thinking, and Judging facets in the Faculty of Education, more of the Thinking side in the Faculty of Economics, more of the Extravert, Sensing, Feeling, and Judging sides in the Faculty of Sciences, more of the Feeling and Perceiving sides in the Faculty of Pharmacy, and more of the Extravert, Intuition, Feeling, and Perceiving sides in the Faculty of Fine Arts.

By investigating the distribution of both the type and the GPA, it was found that INTJ, and ENFJ achieved higher marks compared with their counterparts in the other types (see Figure 2).

Statistically, when investigating the correlation between students' type and which Faculty they chose to study in using Pearson correlation significance, Kendall's τ_b correlation coefficient, and Spearman's ρ correlation coefficient, the results showed no significant correlation (0.104, 0.073, and 0.093, respectively).

Regarding the correlation between dichotomies and faculty of study, results showed that for the S-N dichotomy, there were significantly more (S) than (N) students in the Faculty of Education and the Faculty of Sciences, Physics Department. There were significantly more (N) than (S) students in the Faculty of Fine Arts. The T-F dichotomy analysis showed a statistically significant correlation between the T-F dichotomy and Faculty where more (N) than (S) students are found in the Faculty of Fine Arts. There were significantly more (T) than (F) students in the Faculty of Education and the Faculty of Economics. The J-P dichotomy analysis showed a statistically significant correlation between the J-P dichotomy and Faculty, where significantly more (J) than (P) students were found in the Faculty of Education and the Faculty of Sciences. There were significantly more (P) than (J) students in the Faculty of Fine Arts.

By analysing the correlation between dichotomies and overall study like, it was found that there is a statistically significant correlation between the J-P dichotomy and overall study like. More (J) than (P) students indicated that they were neutral towards or liked their study, whereas more (P) than (J) said they disliked their study.

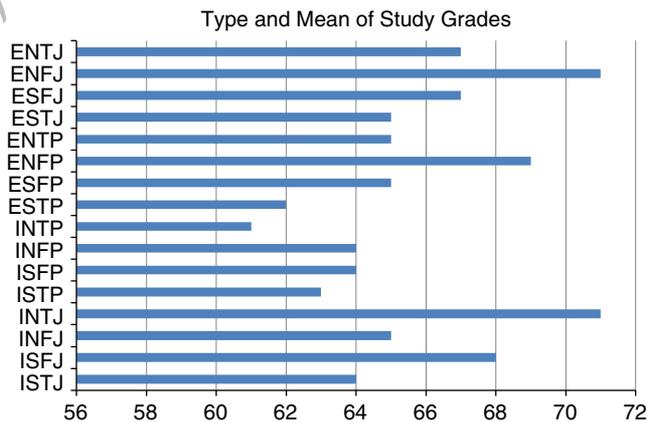


Figure 2.
Type and
grade average

Note: $n = 89$

There was no statistically significant correlation between other dichotomies and overall study like.

The analysis of correlations between dichotomies and individual subject study like showed that for the E-I dichotomy, there was a statistically significant correlation with studying music only. More (E) either strongly liked, or liked studying music, whereas more (I) strongly disliked or disliked studying music. When investigating the correlation between individual subject study like and S-N dichotomy the results showed a statistically significant correlation between (S) or (N) and studying geometry, where more (N) either strongly liked or liked studying geometry, and more (S) either strongly disliked or disliked studying geometry. Also between (S) or (N) and studying Arabic literature and Arabic composition, more (S) either strongly liked or liked studying both subjects, whereas more (N) either strongly disliked or disliked studying both subjects. The correlation analysis between (S) or (N) and studying English language showed more (N) either strongly liked or liked studying English language, whereas more (S) either strongly disliked or disliked studying English language. For French language and philosophy, it was found that more (N) either strongly liked or liked studying French language and philosophy, whereas more (S) either strongly disliked or disliked studying French language and philosophy. For painting and music, it was found that more (N) either strongly liked or liked studying painting and music, whereas more (S) either strongly disliked or disliked painting and music. The results also showed that there was a statistically significant correlation between T-F dichotomy and non-organic chemistry, where more (N) either strongly liked or liked studying non-organic chemistry, whereas more (S) either strongly disliked or disliked studying non-organic chemistry. When investigating the correlation between individual study subject like and J-P dichotomy, results showed a statistically significant correlation between J-P dichotomy and Arabic art and composition, where more (J) either strongly liked or liked studying Arabic art, whereas more (P) either strongly disliked or disliked studying Arabic art and composition.

With regards to the correlation between dichotomies and GPA, the only item of statistical significance was the S-N dichotomy where $p = 0.03$. There were more (N) achieving higher grades than (S).

5. Discussion

Although results did not indicate a decisive relation between GPA and MBTI personality type, there was a clear relationship between the S-N dichotomy and distribution among faculties, S-N dichotomy and overall study and selected subject like, and S-N dichotomy and GPA. There also appears to be a relationship between overall study like and GPA. Taking into account the fact that the S-N dichotomy is the perceiving part in the type theory, and that selection of study domain and academic achievement are primarily the result of a perceiving function, the findings of this research seem logical. Felder and Brent (2005) noted that students will perform differently depending on the way they naturally prefer to process information of a subject. If memory and recall are important, Sensing types should perform better, while if analysis is required, intuitive students should have an advantage. Practically, according to Felder and Brent (2005), the majority of Sensors intended to work as engineers in large corporations after their studies while a much higher percentage of Intuitors planned to work for small companies or to go to graduate school and work in research. Intuitors were three times more likely than Sensors to give themselves top ratings for creative problem-solving ability and to place a high value

on doing creative or innovative work in their careers. Feelers placed a higher value than Thinkers on doing socially important or beneficial work in their careers. As advanced students, 14 per cent of the Perceivers and none of the Judges planned to take a year off following graduation before committing themselves to a career path (Felder and Brent, 2005).

Not being able to demonstrate a statistically significant correlation between type as a whole and Faculty in the research may be attributed to the small sample size, which was inevitable within the capabilities of this study due to time and financial constraints as well as the nature of the subject organisation. But even with a small sample group, findings indicate that there can be enough polarisation towards one pole of the dichotomy if there is enough homogeneity and if additional selection criteria to be in a certain Faculty are installed, as in the case of the Faculty of Fine Arts where an admission test which explores basic Intuition and Perceiving functions is applied.

For the performance to be more related to dichotomies than to overall type seems logical. In this study, it seems logical for the S-N dichotomy to stand out as the strongest anchor and indicator to like and performance as the subject organisation is a teaching institution.

This study showed similar results to the ones reached by Rosati (1998) and O'Brien *et al.* (1998). Rosati indicated that the only statistically significant type difference in average SAT scores was between Sensors and Intuitors on the SAT mathematics test (645 for Intuitors, 615 for Sensors). In that study, Intuitors also outscored the Sensors on the SAT verbal test by 533 to 511 and Perceivers outscored Judges on the SAT mathematics test by 642 to 619, but these differences were not statistically significant. Extraverts and Introverts scored almost identically on both the mathematics and verbal tests. O'Brien *et al.* (1998) reported the Sensing-Intuition difference to be by far the most important of the preferences, and that Intuitors had higher grades than sensors. Whether the higher GPA observed in this study is an outcome of being of the Intuition in the Sensing-Intuition dichotomy or the nature of Faculty study, which happened to be here the Faculty of Fine Arts which contained the largest number in the Intuition side, remains to be further investigated.

This study suggests that establishing a strong and consistent correlation between type/dichotomy and Faculty may help predicting the choice of study major for future students. Establishing a strong and consistent correlation between type/dichotomy and individual subject study like may help predicting the level of comfort and harmony between students and study major, provided that a thorough and comprehensive analysis is done to the characteristics of all subjects taught in all faculties. This can be very challenging practically. Establishing a strong and consistent correlation between type/dichotomy and GPA may help predicting the academic performance of future students. Achieving all the above requires doing a further phase of this research on a larger scale and over a longer time frame. A longitudinal study may also help to generate data in this important field. This large-scale data may serve as a tool to make future decisions regarding faculty admission requirements, which may have a significant impact on the future characteristics of skilled workers in the labour market.

Practically, the study opens the doors for further investigating the type of graduated students and its relation to the career type from the perspective of recruiters. There have been several publications related to the practical applications of the type theory in the business environment, particularly in the field of human resources management; these include type and career (Hammer, 2007; Stilwell *et al.*, 2000; Kovar, 2003), type

and career development (Dunning, 2005; Felder and Brent, 2005), type and retention (Hammer, 2003), type and teams (Hirsh *et al.*, 2003; Adams, 2004), type and conflict management (Killen and Murphy, 2003; Clinebell, 2003), type and its relation to values and interests (Jarlstrom, 2000; Johnson and Coppola, 1990; Pearson and Dollinger, 2003), type and strategic planning and decision-making process (Jennings and Disney, 2006; Hough and Ogilvie, 2005), type and mental information processing (Edwards, 2003; Woolhouse and Bayne, 2000), type and academic performance (Kahn *et al.*, 2002; Felder and Brent, 2005), and type and learning (Cassidy, 2004; Li *et al.*, 2008; Worthington and Clay, 2007).

In this regard, Reynierse *et al.* (2000) indicated that research showed entrepreneurs to be distinguished from other business forms on important personality dimensions. Highly innovative entrepreneurs are more frequently N (Intuition) than functionally oriented business managers. Adaptable managers are more frequently P (Perceiving) than planning, organised managers, characteristically J (Judging) (Reynierse *et al.*, 2000). In a study examining how cognitive style, as measured by the MBTI, affects strategic decision outcomes, it was found that Intuiting/Thinking managers used their Intuition to make cognitive leaps based on objective information to craft a high number of decisions of higher quality than other managers. In contrast, Sensing/Feeling types used time to seek socially acceptable decisions, which led to the lowest number of decisions and the lowest perceived effectiveness of all. No effect was found on decisiveness or perceived effectiveness based on a manager's preference for Perceiving or Judging. However, the study found that others perceived Extraverted managers as being more effective than Introverted managers when, in fact, the Extraverts were no more decisive than Introverts. Thus, cognitive style influences actual decision outcomes as well as how others perceive decision performance (Hough and Ogilvie, 2005).

Knowing team members' personality types was helpful in understanding team member behaviour and was used in managing team dynamics. Those teams that used extreme division of labour were more likely to respond that the personality-based intervention was not helpful in managing team dynamics (Clinebell, 2003). Adams (2004) mentioned that understanding and tolerance of individuals' behaviours and actions are the largest benefit that the Myers-Briggs test has to offer as a contribution to teams' effectiveness.

Kovar (2003) examined the characteristics of accounting students recruited into and retained by one of the original Accounting Education Change Commission (AECC) grant programmes using the MBTI. Results indicate that, contrary to expectations, the personality types attracted to and retained in the programme have not become more diverse over the course of eight years. These results may imply that certain requisite preferences are needed to succeed in accounting or that homogeneity has benefits not previously considered. They certainly suggest a need to further refine recruiting processes, to focus on broader perceptions of the profession, to evaluate the Faculty's own preferences and biases and/or to develop the curriculum to help students learn to use their less preferred personality traits (Kovar, 2003).

Issues of MBTI validity and its relation to other psychological tests are open for further research. The difference between the MBTI and most other psychological measures is that the MBTI is specifically not to measure traits, but rather to sort people into equally valuable groups to which, in accordance with Jung's theory, they already belong. Most other measures of personality hypothesise the existence of one or more psychological traits the person is assumed to have in varying amounts. The instruments designed to assess traits are thus intended to measure how much of

the particular characteristic the person possesses. In this model, one end of the trait dimension is usually considered to be better than the other. The high score on a dominance scale might be interpreted as positive. Whereas, a low score on a dominance scale may carry a negative connotation (Briggs-Myers *et al.*, 2003).

The correlation between different psychometric tools has been previously studied. In one study by Furnham *et al.* (2003) investigating the relationship between two of the most widely used personality measures, the revised NEO Personality inventory (NEO PI-R) and the MBTI, a total of 900 participants completed the NEO PI-R and the MBTI. Correlation analysis of the personality measures showed that NEO PI-R Extroversion was correlated with MBTI Extraversion-Introversion, Openness was correlated with Sensing-Intuition, Agreeableness with Thinking-Feeling and Conscientiousness with Judging-Perceiving. Some authors have indicated that despite recent enthusiasm for the use of personality inventories in personnel selection, many of the problems cited in Guion and Gottier's (1965) review have yet to be resolved. They described problems with validity, defining the right link, and lower degree of acceptance compared to cognitive tests (Murphy and Dzieweczynski, 2005).

Note

1. Dichotomies are Extravert (E)-Introvert (I), Sensing (S)-Intuition (N), Thinking (T)-Feeling (F), Judging (J)-Perceiving (P).

References

- Adams, S. (2004), "Team effectiveness and individual Myers-Briggs personality dimensions", *Journal of Management in Engineering*, Vol. 20 No. 4, pp. 141-146.
- Briggs-Myers, I., Mc Caulley, M.H., Quenk, N.L. and Hammer, A.L. (2003), *MBTI Manual*, 3rd ed., CPP Inc, Palo Alto.
- Cassidy, S. (2004), "Learning styles: an overview of theories, models, and measures", *Educational Psychology*, Vol. 24 No. 4, pp. 419-444.
- Clinebell, S. (2003), "Teaching teams to be teams: an exercise using the Myers-Briggs Type Indicator and the five factors personality traits", *Journal of Management Education*, Vol. 27 No. 3, pp. 362-383.
- DeBerard, M.S., Spielmans, G.I. and Julka, D.L. (2004), "Predictors of academic achievement and retention among university freshmen: a longitudinal study", *University Student Journal*, Vol. 38 No. 1, pp. 70-76.
- Dunning, D. (2005), *Type and Career Development*, CPP Inc, Menlo Park.
- Edwards, J.A. (2003), "The interactive effects of processing preference and motivation on information processing: causal uncertainty and the MBTI in a persuasion context", *Journal of Research in Personality*, Vol. 37 No. 2, pp. 89-99.
- Evans, J. and Dirks, S. (2001), "Relationship of admission data and measurement of psychological constructs with psychomotor performance of dental technology students", *Journal of Dental Education*, Vol. 65 No. 9, pp. 874-882.
- Felder, R. and Brent, R. (2005), "Understanding student differences", *Journal of Engineering Education*, Vol. 91 No. 1, pp. 58-72.
- Furnham, A., Moutafi, J. and Crump, J. (2003), "The relationship between the revised neo-personality inventory and the Myers-Briggs Type Indicator", *Social Behaviour and Personality: An International Journal*, Vol. 31 No. 6, pp. 577-584.
- Guion, R.M. and Gottier, R.F. (1965), "Validity of personality measures in personnel selection", *Personnel Psychology*, Vol. 18 No. 2, pp. 135-164.

- Hammer, A.L. (2003), *Type and Retention*, CPP Inc, Palo Alto.
- Hammer, A.L. (2007), *Introduction to Type and Careers*, CPP Inc, Palo Alto.
- Hautala, T.M. (2006), "The relationship between personality and transformational leadership", *Journal of Management Development*, Vol. 25 No. 8, pp. 777-794.
- Hirsh, E., Hirsh, K. and Hirsh, S.K. (2003), *Introduction to Type and Teams*, CPP Inc, Palo Alto.
- Hough, J.R. and Ogilvie, D.T. (2005), "An empirical test of cognitive style and strategic decisions outcome", *Journal of Management Studies*, Vol. 42 No. 2, pp. 417-448.
- Jarlstrom, M. (2000), "Personality preferences and career expectations of Finnish business students", *Career Development International*, Vol. 6 No. 3, pp. 144-154.
- Jennings, D. and Disney, J. (2006), "Designing the strategic planning process: does psychological type matter?", *Management Decision*, Vol. 44 No. 5, pp. 598-614.
- Johnson, D.A. and Coppola, R.J. (1990), "Type and values", paper presented at the Great Lakes Regional Conference of the Association of Psychological Type, Dayton, OH.
- Kahn, J.H., Nauta, M.M., Gailbreath, R.D., Tipps, J. and Chartrand, J.M. (2002), "The utility of career and personality assessment in predicting academic progress", *Journal of Career Assessment*, Vol. 10 No. 1, pp. 3-23.
- Killen, D. and Murphy, D. (2003), *Introduction to Type and Conflict*, CPP Inc, Palo Alto.
- Kovar, S. (2003), "Personality preferences of accounting students: a longitudinal case study", *Journal of Accounting Education*, Vol. 21 No. 2, pp. 75-94.
- Li, Y., Chen, P. and Tsai, S. (2008), "A comparison of the learning styles among different learning programs in Taiwan: implications for nursing education", *Nurse Education Today*, Vol. 28 No. 1, pp. 70-76.
- Lu, L. (1994), "University transition: major and minor life stressors, personality characteristics and mental health", *Psychological Medicine*, Vol. 24, pp. 81-87.
- Murphy, K.R. and Dzieweczynski, J.L. (2005), "Why don't measures of broad dimensions of personality perform better as predictors of job performance", *Human Performance*, Vol. 18 No. 4, pp. 343-357.
- O'Brien, T.O., Bernold, L.E. and Akroyd, D. (1998), "Myers-Briggs Type Indicator and academic achievement", *International Journal of Engineering Education*, Vol. 14 No. 5, pp. 311-315.
- O'Neill, P.N. (2007), "Personality traits of endodontic residents indicate potential for becoming endodontic faculty", *American Association of Endodontics*, Vol. 33 No. 4, pp. 427-431.
- Pearson, J. and Dollinger, S. (2003), "Music preference correlates of Jungian types", *Personality and Individual Differences*, Vol. 36 No. 5, pp. 1005-1008.
- Reynierse, J.H., Ackerman, D., Fink, A.A. and Harker, J.B. (2000), "The effect of personality and management role on perceived values in business settings", *International Journal of Value-Based Management*, Vol. 13 No. 1, pp. 10-13.
- Rosati, P. (1998), "Academic progress of Canadian engineering students in terms of MBTI personality type", *International Journal of Engineering Education*, Vol. 14 No. 5, pp. 322-327.
- Stilwell, N.A., Wallick, M.M., Thal, S.E. and Burleson, J.A. (2000), "Myers-Briggs type and medical specialty choice: a new look at an old question", *Teaching and Learning in Medicine*, Vol. 12 No. 1, pp. 14-20.
- Tinajero, C. and Paramo, F. (1998), "Field dependence-independence in second language acquisition: some forgotten aspects", *The Spanish Journal of Psychology*, Vol. 1 No. 1, pp. 32-38.
- Wolfe, R. and Johnson, S. (1995), "Personality as a predictor of college performance", *Educational and Psychological Measurement*, Vol. 55 No. 2, pp. 177-185.

Woolhouse, L.S. and Bayne, R. (2000), "Personality and the use of intuition: individual differences in strategy and performance on an implicit learning task", *European Journal of Personality*, Vol. 14 No. 2, pp. 157-169.

Worthington, R.C. and Clay, M.C. (2007), "Learner-specific continuing education and the Myers-Briggs type inventory", *Journal of Continuing Education in Health Professions*, Vol. 15 No. 2, pp. 95-100.

Further reading

Hammer, A.L. (1993), *Introduction to Type and Careers*, Consulting Psychologists Press Inc, Palo Alto, CA.

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