UNDERSTANDING THE MANAGEMENT CHARACTERISTICS OF ENGINEERING STUDENTS IN MUMBAI – INDIA

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─Abstract ─

Education is vital for development of the individual and country in their progress. It is vital to find out the management characteristics of the group so that a focused approach can be made to educate them.

This paper focuses on the top engineering college in Mumbai, India. A sample size of 122 students from the third year has been analyzed. These students are imparted a management program training in the final year so that they are fully equipped to handle the management issues in the working environment. This study looks at six variables of gender, work experience, family size, age, education and friends. These are related to the intrinsic management characteristics of the individual.

Using correlations the significant variables are identified for the management characteristics of the individual. Specific findings show the focus that is needed to specifically train the students to achieve the desired management characteristics.
This paper helps to establish the procedure that helps the researcher to focus management training needs to achieve the requirements for ideal management characteristics in individuals who face the hostile environment.

Key Words: *Engineering students, Management training, working environment*
JEL Classification: M 54

1. INTRODUCTION

1.1. Guna Theory

The Universe is considered to be made up of basic particles that are electrons, protons, neutrons, etc. However, at the spiritual level the Universe is made up of basic components (*trigunas*) that is *sattva*, *raja* and *tama*. In *triguna*, '*tri*' stands for three and '*gunas*' stand for subtle components. The characteristics of these are seen in the Table 1 below

Table 1

The 3 components	Characteristics	Adjective	Example
Sattva	Purity and knowledge	*Saattvik*	*Saattvik* man – lives in service of society with no expectation of recognition or reward or any ulterior motive
Raja	Action and passion	*Raajasik*	*Raajasik* man – lives more for personal gain and achievement
Tama	Ignorance and inertia	*Taamasik*	*Taamasik* man – has no problem about stepping on other's toes to get ahead or harming society

Our mind is a bundle of thoughts that can be categorized into three types of gunas, rajas, sattva, and tamas. Our dharmakshetra is complex makeup of these gunas. Rarely do we find that a person is as entirely *satvik*, *rajasik* or *tamasik*. Usually they are *satva-raja* or *raja-satva* or *tama-raja* predominant. For example a *satva-raja* person has characteristics of *satva* and *raja* in similar proportion with a predominance of *satva*. All persons emit *satva*, *raja* or *tama* vibrations depending on which component is predominant.

1.2. Wellbeing

Personal wellbeing has been conceptualized as optimal functioning rather than merely absence of pathology. Research into wellbeing has been centered on the

term subjective wellbeing (SWB), measured by overall satisfaction with life and by satisfaction across various life domains. SWB remains relatively stable over the lifespan, life events, including relationships, however the degree to which one experiences control over one's response to life events (perceived control) is considered to have a buffering effect for adverse life events and may enhance wellbeing. Perceived control enhances one's sense of purpose in life. Major domains for life satisfaction are positive relationships, health status and achievement of life goals. The goal of appropriate management training is basically to enhance the subjective wellbeing in terms of life satisfaction, health and achievement of life goals. This is possible if the management characteristics are properly identified. This paper identifies the triguna characteristics and provides insight into the focus of the training requirements to maximize SWB.

2. LITERATURE REVIEW

Every person has three *gunas* or three "modes" that are qualities of the material world. They are *sattva* that is 'goodness', *rajas* that is 'passion' and *tamas* that is 'ignorance' (Prabhupada 2000) (Wolf 1999). Every person is inherently born with these three qualities in different permutations. They act on us at all times with different permutations and influence decision making (Vasudev 2001). It is found that in every person one of the three Gunas is there with superior strength and reflects all they do and think. (Chakraborty 1987). Das has found that the three *Gunas* are exclusive of each other (Das 1987). These *Gunas* initially vary in their dominance in determining the personality of an individual however they gradually settle on one personality type (Das 1991)

Sreekumar, R and Jacob George 2007 used the I.A.S. Rating Scale and Psi Inventory on 200 subjects showing that females reported significantly more psi experiences than males. This shows gender as an important factor in evaluating trigunas. Sebastian and Mathew (2002) have also found that PSI experience was positively related to *Sattva* and *Rajas* for females.

Haigh (2009) suggested a three layered training for individual development

Level 1 Dispelling Tamas: That is literally, removing ignorance,

Level 2 Engaging Rajas: That is literally, engaging creativity, passion and energy,

Level 3 Reflecting Sattva: Involving synthesis and overall reflection

Narayanan and Krishnan (2001) had measured the three *Gunas* along ten dimensions that is attribution, leisure, food, interests, praise and criticism,

sympathy, right and wrong, working with determination, motivation to work, and accepting pain. They showed that the *Sattvic* dimensions enhanced transformational leadership and *Rajasic* dimensions reduced the *Karma.*

The paper published in 'The Indian Journal of Industrial Relations" explored the impact that the personality factors having an influence on the individual attitude this, in turn, has an influence on individual intention. This paper examines the gunas personality construct and looked at behavior based on these factors based on the traditional Indian literature.

Subhash Sharma (1998) has explored an Indian way of managing (Theory K) derived from the Kutumbh or family. The organization is considered like a family and the interconnectivity is established with the other well known theories (X, Y & Z). Dr. Dhira Govinda Dasa (1999) had in his study analyzed 619 subjects for their vedic personality inventory (VPI) in the US with originally 90 items that was subsequently shortened to 56 items based on reliability and validity analysis. These were analyzed based on six demographic questions pertaining to age, years of education, ethnicity, religion, gender and friends. These supported the construct validity of the VPI.

Diener (1995) defined subjective wellbeing (SWB) as 'how people evaluate their lives'. SWB is considered to be a function of three variables: life satisfaction, lack of negative mental states and the presence of positive mood and emotion. McCrae et al (2000.

The direct aim of ancient Indian education was to make the student fit to become a useful and pious member of society (Rangachar S, 1964). Ancient Indian educational system focused on building a disciplined and values-based culture. Human values such as trust, respect, honesty, dignity, and courtesy are the building blocks of any free, advanced society (Markandan N, 2005).

Valentin et al (2007) discussed the quality of education as a permanent priority of any institution or organization. The personal development depends on the qualitative learning that results in the society progress and the care of the environment. According to Martin Carole (2008) hard skills are like what appear on your resume or the technical knowledge whereas soft skills are like personality traits, communication, leadership, creativity, teamwork etc. Basically soft skills do not substitute the hard or technical skills, but the soft skills help to harmonize both the skills to get highly effective performance in people even with good hard skills.

In today's competitive world professional qualification and domain knowledge is not enough as today's professionals need to face change there is a need to possess high Soft Skills in order to succeed. According to Watts & Watts hard skills contributes only 15% for one's success while remaining 85% is contributed by soft skills (Watts M and Watts R. K, 2008). Jessy John (2009) has shown in her studies on 80 management students from Jaipur using control and experimental group method found that soft skills are very vital for overall personality development.

3. RESEARCH METHODOLOGY

The concept of the Triguna gives our understanding of human behavior. Recently attempts have been made to develop personality inventories on the basis of the Triguna. The earliest available inventory was formulated by Parameswaran (1963).

Mohan and Sandhu (1986, 1988) had developed on the basis of the Gita tyopology of personality (TGPI) a Triguna personality inventory that measures the three Gunas separatly with one being predominant. They concluded that Satva is different distintinctly from Rajas and Tamas.

Wolf (1998) had developed the Vedic Personality Inventory (VPI) that can be used to assess the Vedic concepts validity of the three Gunas- Satva, Rajas and Tamas, or their modes of nature. The items for this inventory were derived using Vaishnava tests.

It was decided to use the questionnaire developed by KIRTI as it was easy to administer and evaluate in order to classify the sample. It is possible to distinguish the personality type according to the predominant subtle component based on the pointers for various attributes like personality defects, virtues, ways of giving happiness, relationship with others, sleep etc. These attributes are measured using the questionnaire developed by Maa Gyaan Suveera of The (KIRTI) KI Research and Training Institute, Muni Ki Rett, Rishikesh. A total of 19 questions are given to the sample and they have to select the options offered to each question by marking the one closest to their behavior. The total of the options give the subtle component.

A total of 122 Engineering students from the third year of computer science were sampled. The Engineering College is in the top five colleges in Mumbai with a

very good record of job placements and overall personality development. In India and specifically in the city of Mumbai the computer engineering stream is the most requested and prestigious sought out among the intellect of India. The total annual intake of this College is 250 students who are selected over 200,000 prospective candidates who undergo a rigorous competitive entrance. The third year students were selected for sampling because in the pedagogy of the engineering curriculum the management skill training at this stage. It is therefore vital to identify the existing management qualities of these students so that the proper management training skills can be imparted in order to sustain their leadership position in the College rating and placements.

The questionnaire was administered to half the class of 250 that is 125 out of which the valid answers for analysis was 122. There were 83 male (68%) and 39 were female (32%) respondents. The analysis was done on basis of the dependent variables like gender, age of the respondent in years and months, work experience in years, education after the basic schooling in years, family size in number and number of friends as these determines the guna as seen from the literature reviewed. The data was analyzed on SPSS 17.0

Research Objective is mainly to determine the triguna characteristics of the engineering students so that the proper management training can be provided.

4. DATA COLLECTION AND FINDINGS

The data was collected on first day of the training with each of the 19 questions codified and the aggregate guna ranked as ‘low’ which consists of total 1 to 6 ticks, ‘medium’ as total 7 to 9 ticks and ‘high’ as total 10 to 18 ticks. The data was entered into SPSS 17.0 and analyzed.

The scale reliability for the 19 questions which looked at the three subtle factors that is Tamasic, Rajasic and Sattvic was checked. The Cronbach’s alpha score was 0.612

The regression for the Tamasic nature shows six predictors among the 19 questions that are their lunch habits, liking for music, their conduct on returning

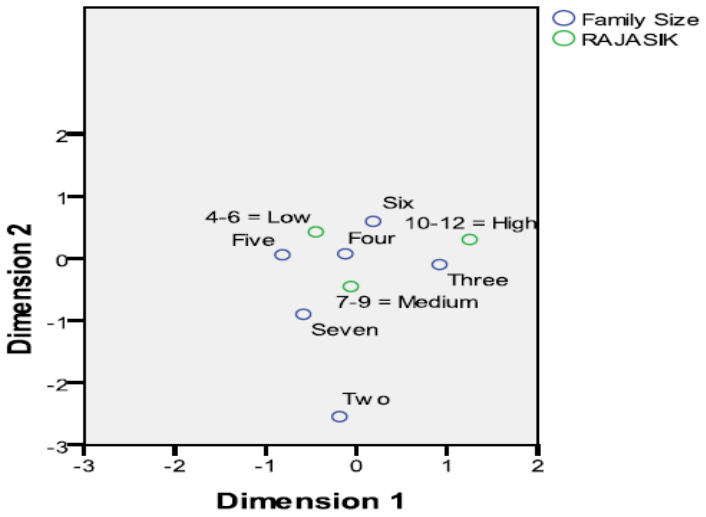
home, the language they use, and their posture while seated. The regression coefficient was 0.672

The Tamasic characteristics were analyzed for the other variables like gender, work experience, family size, age, college education and number of friends and it was found that the low Tamasic characteristics had a significant correlation (Spearman's rho -0.295) with the gender. The females were much lower than the males in the low Tamasic characteristics or the males were significantly much higher than the females in the low Tamasic characteristics.

The regression model for the Rajasik nature shows four predictors among the 19 questions that is their liking for music, how they appraise strangers, footwear and their attitude at study. The regression coefficient was 0.579

The Rajasik characteristics were analyzed for the other variables like gender, work experience, family size, age, college education and number of friends and it was found that the Rajasik characteristics had a 90% significant correlation (Spearman's rho -0.322) with the family size of three, four and five member family size as seen in graph I.

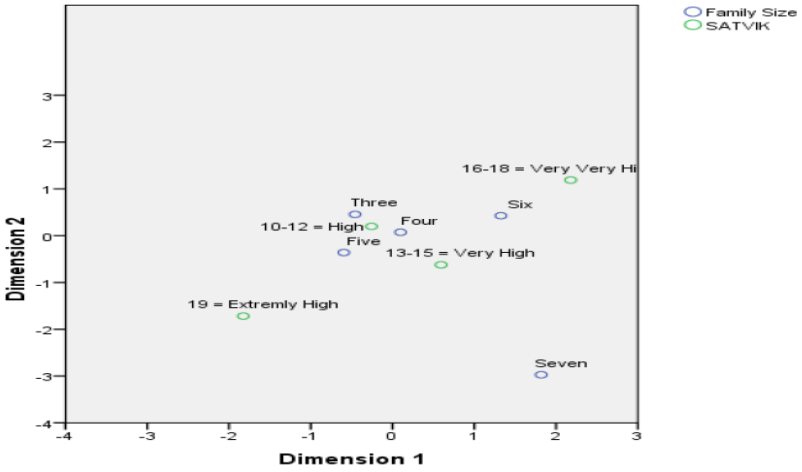
Graph I



The regression model for the Satvik nature shows fourteen predictors among the 19 questions for the students who are Satvik. The main variables that predict

almost 80% of the Satvik characteristics are music, attitude while studying, lunch habits, reading habits, appraisal of strangers and belief in God. The regression coefficient was 0.907. It was found that the Satvik characteristics had a significant correlation (Spearman's rho -0.294) with the family size especially seen for high satvik characteristics as shown in graph II below

Graph II



4. RECOMMENDATIONS AND CONCLUSIONS

The questionnaire used by the Kirti Institute at Rishikesh is reliable enough to measure the three subtle factors (gunas) for third year engineering students. There is a need for understanding their training needs in terms of the management skills based on a proper personality inventory. The training needs have to be focused so that it can be effective in developing the happiness for the lifetime.

The VPI construct validity and the dependent variables selected helps in identification of the guna structure of the engineering students. The tamasic nature has a high degree of relations with the six predictors that are crucial to the trainer in terms of the soft skill training inputs in order to breakup up the mental inertia and move to a self motivated action. Also because more males had relatively higher tamasic nature the group of males needs to be focused.

The respondents who have the dominant Rajasik nature need to be moved in a calm manner from a self motivated action to a selfless service. The four predictors need to be focused on while dealing with the Rajasik nature. By proper training inputs they need to be shown the way to achieve a service that is for others instead of the self. In the situation of the 90% significant Rajasik characteristics that is dependant on the family size of seven members with a medium rajasik character and the family size of six & three members with high rajasik characteristics it is necessary to concentrate on them to make them more synergistic to attain the satvik nature.

The Satvik person requires the inputs on spiritual practices and they can easily move into meditation in order to perfect this state. This would be the peak of Maslow's hierarchy. The study shows that out of the 19 factors only five did was not significantly explaining this character. It is necessary to look at the significant factors in order to input the spiritual practices to achieve the high level of happiness. The family size significantly influenced the satvik nature especially with a family size of 3-5 members showing a high satvik nature and six members was close to very high satvik character. There is a need to study the details of this group so that the similar soft skill training inputs can be provided to the other family sizes.

5. ISSUES AND CHALLENGES

The sampling was restricted to the engineering students from only one out of the dozen colleges in the Mumbai. Also it would be better to study other discipline that is the Business school and normal graduation students training requirements. These would help evolve a more focused result on the gunas of different student types and their training requirements would also differ.

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