Behavioral Identification of Budding Professionals through "Neo Personality Inventory Traits"

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ABSTRACT

Twenty first century is considered as the knowledge era in which intellectual capabilities coupled with individual expertise contributed much for the development of the society and its supporting systems. The usefulness of personality traits in the explanation and prediction of students is critically evaluated, and both contemporary theory, existing empirical findings are reviewed, emphasizing the need for conceptual clarity and methodological reform. This research work focuses on the possibility of building a decision for the benefit of students based on their personality, interest, family background, vision, past accomplishments and so on. We employed the neo-personality psychometric inventory to collect the primary data. Personality can greatly assist in the prediction of future performance from data collected from first semester B.E. / B.Tech Students. The FFPI model has revealed that it is a robust model that can describe an individual's personality. The objective is to analyze the basic personality traits, to find out the performance capabilities and to evaluate the effectiveness of an individual. It selects sample of respondents and the study has been carried out on the areas that identify the need for the NEO Personality Inventory and evaluation reports have been prepared based on the analysis. This study would help the university to understand the attitude and performance of both the boy and girl students and to take necessary measures to overcome the discrepancies of negative aspects of buddy professionals in order to be successful folks in future. Findings are discussed in terms of analyzing FFPI model and areas for further research, with emphasis on the importance of personality in relation to behavior prediction. Girls are highly neurotic, conscientious, boys are highly agreeable and extrovert and both are average in openness to experience. Recommendations for future research are outlined, and this critique is complemented by a detailed case study of a practical research design drawn from an ongoing project. Taken together this provides a powerful illustration of how abstract principles with experimental approach can be used and an underlying message emanating from this evolving body of knowledge can be used to enrich educational activities.

General Terms

Behavior Identification, Personality Assessment.

Keywords

NEO Personality Inventory Traits – FFPI - Five Factor Personality Inventory - Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience.

1. INTRODUCTION

The NEO Personality Inventory is used to assess various personality traits. This test has been developed by Costa and McCrae's [3].This test is designed after 15 years of extensive research work carried out on both clinical and normal adult samples. It assesses five major dimensions or domains of personality and important traits or facets that define each domain the revised NEO PI-R. NEO PI predicts only three dimensions namely Neuroticism, Extraversion and Openness to Experience. But NEO PI-R assesses all five dimensions including Agreeableness and Conscientiousness.

In this present study, performance assessment constituting the above personality traits have been carried out for both the boy and girl students of first year B.E. / B.Tech. of our institution and suggested their actual behaviors as recommendations. Various styles such as Leadership style, Conflict Style, Learning Style and Decision making style of students are also identified and recommended.

This paper is outlined as follows. Section 2 discusses the background, the problem statement, need and objectives. Methodology comprising sample size, data collection, description of the instrument, procedure and analysis methods are discussed in Section 3. Results are interpreted in Section 4. Section 5 summarizes the discussions and recommendations, Section 6 narrates the related work and finally conclusions and further enhancements are given in Section 7.

2. RESEARCH BACKGROUND

2.1 Statement of the Problem

This research helps us to identify the behaviors of an individual with personality traits such as Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism in order to overcome the negative behavior and to improve their skills and performance of freshers.

2.2 Need for the Study

The Conscientious students are well-organized, purposeful, and persistent, and there is some evidence to suggest that these traits lead to higher academic achievement [3]. [2] found that students of engineering and the natural sciences are also highly obsessive and that students of art and social science students are sociable and sensitive to sensory experiences. According to [4] physicists are introverted, reserved, cautious, and unsociable in comparison to professionals in the fields of industry, research, and instruction. Ambition, achievement, and low affection are typical of marketing students, according to [5], whereas in [6] study, accountants were found to manifest introversion, conformity and sociability. Conscientious people consider themselves, and are rated by others as being, more intelligent [3], and scores on this domain scale may be a useful supplement to ability measures as predictors of academic and later-life success. The NEO PI_R was developed on and for adults, but it appears to work equally well for college students [3].But as gender differences may be of particular interest, for instance, rates of depression among women are twice that of rates among men, and women are much more likely to seek professional help[7].Easygoing individuals are free spirits who are likely to be laid-back, flexible and casual, with less emphasis on achievement. In a meta-analytic review by [8] differences were replicated across

cultures for both college-age and adult samples, and differences are broadly consistent with gender stereotypes: women reported themselves to be higher in Neuroticism, Agreeableness, Warmth, and Openness to Feelings, whereas men were higher in Assertiveness and Openness to Ideas. Students' community is expected to be more self_disciplined and conscientiousness. They are likely to be well organized and achievement-oriented. Hence the research is carried out for student professionals to analyze these factors. Also the importance of student counseling is increasingly realized in educational institutions, both in India and abroad. This realization has come out because of increasing responsibility of the task of class advisor and student counselor.

This work helps the authorities to understand the feelings and performance of the students and to take necessary measures to overcome their discrepancies of negative aspects.

2.3 Objectives of the study

The Study on Neo Personality Inventory for the university students have been taken up with the following objectives.

2.3.1 Primary Objective

To predict students' basic personalities such as Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism of both male and female separately.

2.3.2 Secondary Objective

To analyze and evaluate the behaviors of students to improve Team building, Performance analysis, Selection, Coaching and counseling, Career development, Leadership development and Conflict management which can then be used by the institution.

3. METHODOLOGY

3.1 Sample Size

The FFPI factor scores are reliable and valid if ratings are made by adults and as the use of the NEO PI_R as a behavioral identification instrument for students appears quite promising, almost 963 samples(633 boy and 330 girl student professionals) are taken up for this research work.

3.2 Data Collection

Collected primary data from first semester B.E./B.Tech students spanning into thirteen batches, comprising of ninety students of various branches excluding non interesting students, through an online decision support system, developed using ASP.Net and SQL Server.

3.3 NEO PI-R

An authorized NEO PI-R is used in the present study. It consists of 240 questions spanning into 5 domains and 6 facets in each domain, comprising of 30 facets altogether. The Form R (Men) is to be used when an individual being rated is male. The Form R (Women) is to be used when the individual being rated is female. For each item in the system, participants express agreement or disagreement on a five-point scale ranging from "strongly disagree"(1) to "fully agree"(5).

The Profile Forms of NEO PI-R are constructed to aid in the interpretation. The profiles forms allow raw score conversion in to 'T' Score. Also, the same 'T' score conversion can be made from the tables. These profiles are administered separately for boys and girls.

3.4 Procedure

Online computerized research forms are administered to first semester students.
• The Scoring Sheet by using standard score table is modeled with appropriate values.

• The corresponding table score for raw score has been found out and calculated with the help of standard table.
• Various behavior levels are identified based on the table score.
• Behavioral range thus found out is incorporated into report sheet in a computerized format.
• Finally based on the behaviors' range data, identifications are given about their personality to help them to overcome their weaknesses and to know their invaluable strengths.

3.5 Tools for Analysis

Behavioral identification between boy and girl student professionals are thus depicted using charts and graphs, statistical measures such as frequency distribution and percentage analysis.

4. RESULTS

4.1 Evaluating Individual Performance of Students

The brief introduction of the online decision support system, detailed explanation about the usefulness of it and also the requirement of the research work are told to the students in order to collect the valid and reliable data. The various behavioral ranges of the students namely Average, High, Very High, Low and Very Low are thus identified.

All the above findings are generated as a report for all students and the same has been exported parallel to MS_EXCEL to perform group analysis. The report includes the facets such as openness with Explorer, Moderate and Preserver behaviors, Conscientiousness with Focused, Balanced and Flexible behaviors, Extraversion with Extravert, Ambivert and Introvert personalities, Agreeableness facets with Adapter, Negotiator and Challenger Characteristics and Neuroticism facets with Reactive, Responsive and Resilient attributes. The report sheet also includes details pertaining to Leadership styles with corresponding themes such as visionary, catalyst, troubleshooter and traditionalist, Conflict styles with themes such as negotiator, aggressor, submissive and avoider, Learning Styles with themes such as classroom, tutorial, correspondence and independent and Decision Styles with respective themes such as Autocrat, Bureaucrat, Diplomat and Consensus.

Based on the above findings of various levels of behaviors, the consolidated interpretation about personality characteristics and behaviors of the students are identified.

4.2 Evaluating Group Performance of Students

After administering Neo Personality to the respondents, the findings suggest that the student's factor scores are construct-valid and sufficiently reliable to be used in (group) research settings.

4.2.1 Openness

Table 1. Openness Level

| Openness Level	Percentage	
	Boys	Girls
Explorer high level	18.01	20.61
Moderate average level	47.08	50.91
Preserver low level	34.91	28.48
Total	633	330
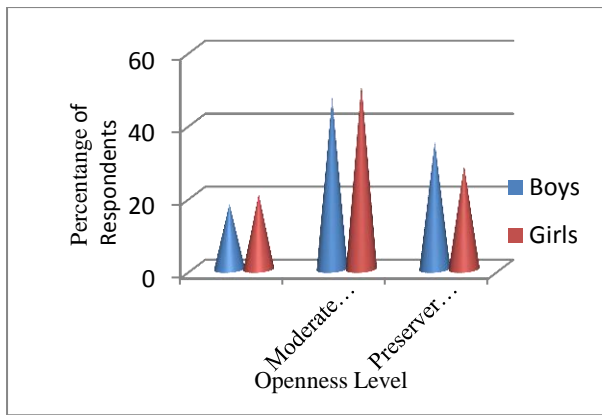
Figure 1: Openness

The Openness is based on three levels; 47.08% of boys, 50.91% of girls are at moderate average level. 34.91% of boys, 28.48% of girls are at preserver low level, 18.01% of boys, 20.61% of girls are at explorer high level. Thus maximum raise in Moderate level indicates that both boy and girl students' fantasies such as mischievous and idealistic, aesthetics such as idealistic, feelings such as outgoing, actions such as adventurous, ideas such as insightful and curious are high. Nominal increase at Preserver low level reveals that the actions are mild and values are conservative and not cautious found to be average. Least percentage in Explorer high level depicts that the fantasies such as dreamy, imaginative, aesthetics such as enthusiastic and Inventive, Feelings such as spontaneous and affectionate, actions such as interests and optimistic, ideas such as idealistic, inventive and imaginative, values such as unconventional are less. Overall as Openness level of both boy and girl students are average, they value both the new and the familiar. They have average degree of sensitivity. They like to consider ideas in new occasions. They do not seek novelty for its own sake and they are described as average in imagination and creativity.

4.2.2 Conscientiousness

Table 2. Conscientiousness Level

Conscientiousness Level	Percentage	
	Boys	Girls
Focused high level	18.48	64.93
Balanced average level	28.15	24.13
Flexible low level	53.37	10.94
Total	633	330
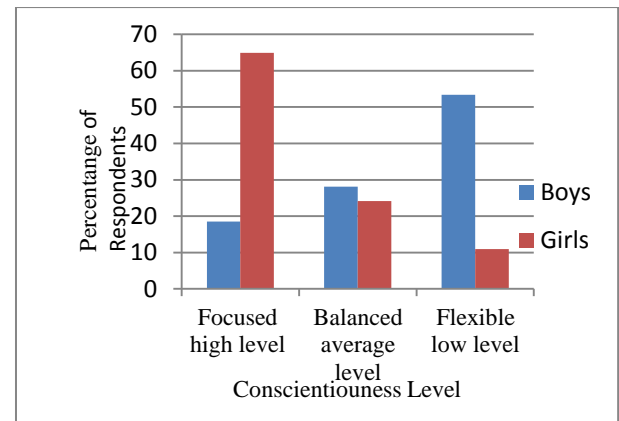
Figure 2: Conscientiousness

The Conscientiousness behavior is also based on three levels; 64.93% of girls and 18.48% of girls are at Focused high level, 28.15% of boys and 24.13% of girls are at Balanced average level and 53.37% of boys and 10.94% of girls are at Flexible low level. Thus almost half of the boy students having flexible low level indicates that the boys have confused competence, careless and absentminded order, laziness in achievement striving, absentminded self discipline, careless and impatient deliberation whereas girls have less confusion, less absentminded and less carelessness. The balanced average level shows that both have medium resourceful and confident competence, methodical and precise order, faultfinding dutifulness, enterprising and confident achievement striving, organized self discipline and immature deliberation. Maximum percentage value in Focused high level depicts that girls have efficient, intelligent and self confident competence, organized and efficient order, industrious and determined achievement striving, efficient, energetic and industrious self discipline and thorough deliberation when compared to boys. Overall as Conscientiousness level of girls are high compared to boys, girl's lead very well-ordered lives, striving to meet their goals in a planful and deliberate manner. They have a high need for achievement. They are neat, punctual, and well-organized and can be counted on to carry through on commitments they make.

4.2.3 Extraversion

Table 3. Extraversion Level

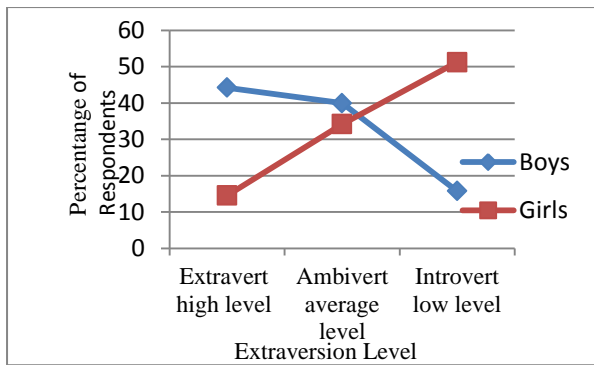| Extraversion Level	Percentage	
	Boys	Girls
Extravert high level	44.24	14.55
Ambivert average level	39.97	34.19
Introvert low level	15.79	51.26
Total	633	330

Figure 3: Extraversion

The Extraversion is again based on three levels; Almost 4.24% of boys and 14.55% of girls are at Extravert high level, 39.97% of boys, 34.19% of girls are at Ambivert average level, 15.79% of boys, 51.26% of girls are at Introvert low level. Maximum raise in Extravert high level in boys depicts that the boys have sociable warmth, outgoing gregariousness, forceful, determined assertiveness, hurried and quick activity, daring and clever excitement, humorous, praising and optimistic positive emotions. On the other hand low score in girls indicates that they have aloof warmth, withdrawn gregariousness and shy assertiveness. Minimum introvert low percentage level of both shows warm, outgoing warmth, pleasure seeking gregariousness and aggressive assertiveness and activity, adventurous and spunky excitement, pleasure seeking and jolty positive emotions. Hence as only minimum number of girls are outgoing, gregarious, optimistic and sociable, others also can aim to reach this level to shape better.

4.2.4 Agreeableness
Table 4. Agreeableness Level

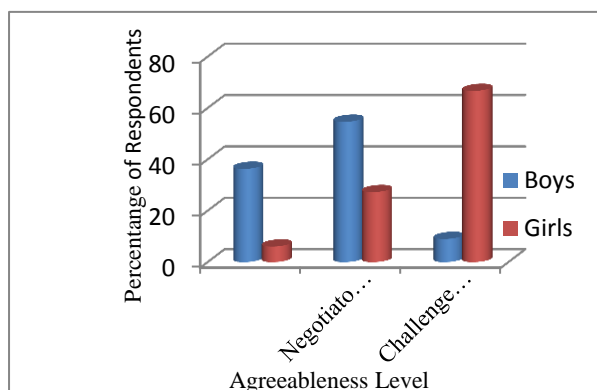| Agreeableness Level	Percentage	
	Boys	**Girls**
Adaptor high level	36.33	6.06
Negotiator average level	54.66	27.27
Challenger low level	9.01	66.67
Total	633	330

Figure 4: Agreeableness

The Agreeableness based on three levels; reveals that almost 66.07% of girls, 9.01% of boys are at Challenger low level, 54.66% of boys, 27.27% of girls are at Negotiator average level and 36.33% of boys, 6.06% of girls are at Adapter high level. Thus maximum raise in challenger low level of girls indicates that most of the girls have suspicious, wary and pessimistic trust, Complicated, demanding and shrewd straightforwardness, selfish, altruism, stubborn, impatient and outspoken compliance, assertive, self confident and idealistic modesty and unstable tender-mindedness. These set of students have qualities of straightforwardness, gentle and tolerant altruism, demanding and hardhearted compliance, clever and argumentative modesty, gentle and kind tender-mindedness. Very less percentage of adapter high level of girls shows that they have forgiving trust, charming straightforwardness, warm, softhearted, generous and kind altruism, friendly, sympathetic and softhearted tender-mindedness. High negotiator level of boys infers that they are autocratic, tolerant, demanding, gentle and kind. Hence it is inferred that girls must improve their agreeableness nature as they can be sympathetic, but can also be firm. They can be trusting but not gullible and ready to compete as well as to cooperate with others.

4.2.5 Neuroticism
Table 5. Neuroticism Level

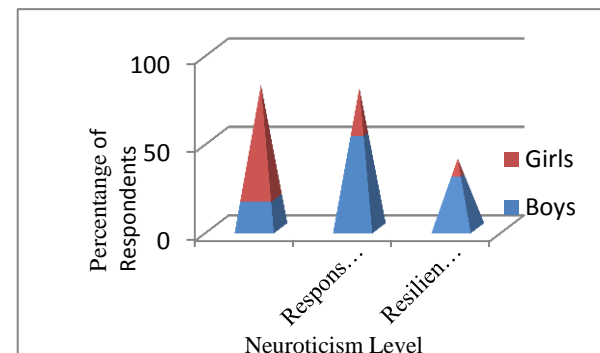| Neuroticism Level	Percentage	
	Boys	**Girls**
Reactive high level	17.10	64.07
Responsive average level	52.90	26.54
Resilient low level	30.00	9.39
Total	633	330

Figure 5: Neuroticism

The Neuroticism is also based on three levels. Almost 64.07% of the girls are at reactive high level and the remaining is at responsive average level and resilient low level. Thus maximum percentage at reactive high level infers that most of the girls are anxious, worrying, tense, and nervous at anxiety level, irritable, impatient and moody angry hostility, worrying and anxious at depression level, timid, defensive, inhibited at Self-consciousness level, moody, irritable and self-centered impulsiveness, anxious and careless vulnerability. Minimum responsive average level of boys indicates that they have fearful anxiety, tense and excitable angry hostility, pessimistic depression, shies in self-consciousness, sarcastic and hasty impulsiveness and confident vulnerability. It's quite dangerous that only 9.39% of the girls have resilient behaviors

such as being optimistic, gentle, contended, confident, loud, excitable and clear thinking. Hence this analysis clearly depicts that especially girls should shed this negative reactive and responsive and practices them to acquire worthy resilient level.

5. DISCUSSIONS AND RECOMMENDATIONS

5.1 Discussions

From the above individual and group analysis, it has been inferred that the high score on students' openness in moderate average level concludes that both boys and girls are average and as inquisitive persons are open to new experiences and tend to have broad interests. They may also be curious, creative, original, and imaginative. Hence as most of the students are idealistic, versatile, outgoing, insightful and adventurous, they may still improve themselves to be open, as high scorers in openness enjoy novelty and variety. They are sensitive to their own feelings and have a greater than average ability to recognize the emotions of others. They have a high appreciation of beauty in art and nature. They will consider new ideas and values, and they are described as high on imagination and creativity. Peers rate such students as original and curious.

As girls score high in conscientiousness indicates that take moral, civic, and personal obligations quite seriously and put business before pleasure. They have good self-discipline and develop number of competencies. They are rated as careful, reliable, hardworking and persevering.

As boys score high in extraversion, they are friendly, like people and easily form close attachments to others. They enjoy the company of others and stimulation of social interaction. Likes parties and more the merrier, likes noisy environments, positive in emotions and laugh easily. They are dominant, forceful and socially assertive, speaks without hesitation. Also they crave for excitement and stimulation. They have fairly high level of energy and tend to be cheerful and optimistic. Overall, they are described as active and sociable.

As girls are low in agreeableness, they are egocentric, skeptical of others' intentions and competitive rather than cooperative. They can be callous in their feelings. Their attitudes are usually tough-minded in most situations and express hostile feelings directly with little hesitation. Low score in this domain is associated with Narcissistic, antisocial and paranoid personality disorder. They are described as stubborn, critical, manipulative or selfish. But average scores of boys infers that they are good natured, sympathetic, firm, ready to compete as well as cooperate with others.

As girls score high in neuroticism, they experience high level of negative emotions and frequent episodes of psychological distress. They are moody, overly sensitive and dissatisfied in many aspects of life. They are low in self esteem. They have unrealistic ideas, expectations in their life. They found to be worrier, feels insecure about themselves and their plans. They are described as nervous, self conscious, high-strung and vulnerable to stress. Hence it is important to note that neuroticism is a domain of normal personality but not suffering from psychological distress. But at the sometime, average score of boys infers that they are average in emotional stability, have typical balance between satisfaction and dissatisfaction in life, neither high nor low in self-esteem.

Overall behavior identification between boys and girls reveals that though girls have high conscientiousness to be successful, but they have high neuroticism which pulls them down. Hence they need to correct this behavior, improve agreeing and be an extrovert to shine further. Considering boys, though they are extravert, average neuroticism to be successful, and their conscientiousness level must be improved in order to excel in future. Also Openness level of both can be improved to be more unique and novel.

From the above behavioral findings, the positive and negative behavioral attributes of students, gender wise are identified. It helps the students to know the positive and negative characteristics which will enable them to overcome their weakness and improve their skills and performance in order to climb up the ladder in future.

Based on the interpretation found, the institution can know the performance variations between the male and female students. It helps the university to motivate the respective students to achieve the desired goal of the institution.

5.2 Recommendations

The following are the suggestions and recommendations to the institution flown from this study.
• The counselors may preferably follow a fixed format for identifying the weak students.
• The counselors may preferably follow a fixed format for identifying the weak students.
• The personality training program can be conducted regularly for all the students.
• Grooming the personal behavior of the students.
• Management can take some responsibility to motivate the personality programmers.
• Extended cooperation and mutual understanding among students alone brings betterment to the institution.
• Awards can be given to those students who are performing well.
• The institution may try to implement behavioral analysis, year wise as students are erratic as it helps in improving the students' effectiveness.

6. RELATED WORK

As there are several measures available for each of the personality traits, many researchers attempted on the validation studies to find their application in quality prediction. Some of them worked on theoretical validation but most of the studies were carried out on an empirical data set.

This work distinguishes itself from others in the following ways:

In this work, Individual and Group analysis have been carried out for both boy and girl student professionals separately. Most of the earlier studies used the theoretical data from various industries, but we attempted on the data generated in an institution.

All five different personality traits are used to evaluate the behavior of the students, though Openness and Conscientiousness are vital domains in educational psychology [3].

All parameters (a total of 30) concerning personality assessment and parameters (a total of 16) related to styles have been thoroughly analyzed and suggested apt recommendations to students to know their strengths and to overcome their weaknesses, and shine in future.

7. CONCLUSIONS AND FURTHER ENHANCEMENTS

7.1 Conclusions

7.1.1 To the Students:

This performance analysis helps the students to know their behavior variations, in executing the task according to their institution's expectations.

7.1.2 To the Institution:

Institution: This performance analysis helps the institution to know their Students' behavior fluctuations, which is highly required in balancing their behaviors so as to sustain the efficacy of an institution.

It also helps the class advisor, student counselor to design and allocate the academic work according to student's behavior in order to maintain the desired goal of an institution. Companies seeking to have a diverse workforce without compromising the integrity of their selection policies may also find comfort in using personality assessments as a part of their process when the same analysis is carried out in pre final year. By measuring personality qualities, concerned head of the department, director and dean can get a better brainwave about each student.

7.2 Further Enhancements

An individual who rightly identifies his capabilities with the analysis of his personality, social background, academic, non- academic achievements and the impact of traditional influence can become an outstanding contributor for the social development by extracting his maximum potential as an investment in the chosen field of operation. Today in the information technology exploitation era it is imperative to use the technical knowledge along with the individual's inborn capabilities, interests and cultivated expertise. This research may provide performance assessment only to students of our university. In further research, performance assessment using FFPI model may be strengthened and carried out to employees in diversified industries, doctors, lawyers and to any other human.

8. REFERENCES

[1] Yuri Jang, James A. Mortimer, William E. Haley, Amy Borenstein Graves. 2002. The Role of Neuroticism in the Association Between Performance-Based and Self-Reported Reported Measures of Mobility. J. Aging and Health, 14(4), (2002), 495-508.

[2] Kline, P., and Lapham, S. L. 1992. Personality and faculty in British universities. Personality and Individual Differences, 13, 855–857.

[3] Costa, P. T., Jr., and McCrae, R. R. 1992. NEO PI_R: Professional manual odessa. Florida: Psychological Assessment Inc.

[4] Wilson G.D.., and Jackson, C. 1994. The personality of physicists. Personality and Individual Differences, 16, 187–189.

[5] Matthews, G., and Oddy, K. 1993. Recovery of major personality dimensions from trait adjective data. Personality and Individual Differences, 15, 419–431.

[6] Granleese, J., and Barrett, T. F. 1990. The social and personality characteristics of the Irish accountant. Journal of Personality and Social Psychology, 11, 957–964.

[7] Carson, R. C., Butcher, J. N and Mineka, S. 1998. Abnormal psychology and modern life (10th ed.). New York: Addison-Wesley.

[8] Costa, P. T., Jr., Terracciano, A and McCrae, R. R. 2001. Gender differences in personality traits across cultures: robust and surprising Findings. Journal of Personality and Social Psychology, 81, 322–331.

[9] Harris. J. A. 1993. Personalities of students in three faculties: perception and accuracy. Personality and Individual Differences, 15, 351–352.

[10] Penley Julie A and Tomaka Joe. 2002. Associations among the Big five, emotional responses, and coping with acute stress. Journal of Personality and individual differences, 32, 1215-1228.

[11] Erez Amir and Judge Timothy A. 2001. Relationship of core self-evaluations to goal setting, motivation, and performance. Journal of applied psychology, 86, 1270-1279.

[12] Neyer Franz J. and Asendorpf Jens B. 2001.Personality relationship transaction in young adulthood , Journal of personality and social psychology, 81, 1190-1204.

[13] Marie S. Hammond, The use of the Five- Factor Model of Personality as a Therapeutic Tool in Career Counseling. Journal of Career Development, 27(3), 153-165.