

# Mental Trait and Personal Characteristic Taxonomy: A Worked Example of “Best Fit” Framework Synthesis

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## Abstract

Underperformance by too few physicians is enough to put the patient health and public trust in the health system at risk. Investigating the dangers and mistakes made by physicians, it is found that many disastrous cases were not solely due to deficiency in their skills, competence and knowledge, but considered as a major factor in their personality and values. A stable and strong personality is required to enable physicians to cope with such complex working conditions and enable them to take action for advancing the health system by demonstrating the maximum capacities of their learnings and knowledge with optimum quality. It is clear that medical education system, besides all educational topics, should pay particular attention to topics related to personality and personal characteristics. Therefore, in this research, we aimed to study the mental and personality traits (personal characteristics) at three levels using “Best fit framework synthesis” method to help educational planners and policymakers consider different dimensions of personality in choosing and educating future physicians with more precision and speed.

**Keywords:** TAXONOMY, MENTAL TRAIT, PERSONAL CHARACTERISTICS, BEST FIT FRAMEWORK, SYNTHESIS

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## Introduction

The British Medical Association (BMA) defined the medical profession as a combination of skills and virtues (a set of values, behaviors and communications that inspire public confidence in the physician) (1). More than 200,000 physicians are working across the UK, but underperformance by too few of them is enough to put the patient health and public trust in the health system at risk. Investigating the dangers and mistakes made by physicians, it is found that many disastrous cases were not solely due

to deficiency in their skills, competence and knowledge, but the result of major issues in their personality and values (2, 3). In investigating the personality of physicians and considering the topic of behavioral characteristics of physicians, many debates usually took place indicating the stressful nature of this job. Physicians with high levels of responsibility who had many continuous challenges encountered the most difficult and high-pressure situations in which crucial decisions to be made on people's life and death (4).

Moreover, considering the innovations in clinical technology, physicians are faced with very complex ethical judgments and positions and a stable and strong personality is required to enable them to cope with such complex working

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conditions and enable them to take actions for advancing the health system by demonstrating the maximum capacities of their learnings and knowledge at high levels of quality (1).

We believe that for every human being, apart from personality and prominent characteristics which Freud and Jung to Adler and Myers and Briggs have defined, analyzed and categorized, there are particular and specific mental traits which pushed him toward delivering a certain kind of performance. Therefore, in this research, we tried to find a comprehensive and profound approach to personality and used it as a base for our analysis in which personality traits (personal characteristics) and mental traits have been categorized. We hope the present research can give guidance to educational planners on developing more targeted and focused programs for learners, taking into account all aspects of their personality through which intrinsic capabilities of the learners have been further exploited for fostering an efficient professional approach.

### *Literature Review*

In 2002, the British Medical Journal raised a question to its writers: What makes a good physician? Out of 102 respondents, more than 70 people referred to qualifications such as empathy, understanding, compassion, honesty, competence, commitment, humanity, courage, creativity, justice, respect, optimism, and elegance (5). In 2013, the questionnaire was sent again to the same people and invited senior students in general medicine working at the interdisciplinary research center and examining personality, values, and virtues to collaborate on a project. In this project, the status of personality and values in medical profession was to be determined and some measures were to be taken for teaching them. This time the question was changed to: What are the most important personality traits of a good physician? In this study, six main areas of wisdom, courage, humanity, justice, moderation, and excellence were identified, each of which included several subcategories.

But it should be noted that a physician is

foremost a human being and with specific human characteristics. Experts have classified these characteristics in different people. For instance, Jung formulated his own style to classify personality dimensions, based on the individual's function in both personal and professional life (6). For over 50 years, the Japanese sought to collect data to defend Theory B in which different types of personality have been classified based on blood types (7). In other models called spectral theory, different types of personality, value, and lifestyle were grouped based on the seven colors of a spectrum. This happened in the 1970s and became famous in the professional world (8). In the five-factor model of personality, all personality traits have been considered to fit one of these titles: extraversion, neuroticism, agreeableness, openness to experience, and consciousness (9). Saucier, Hampson, and Goldberg argue that principles and foundations used to classify individuals' personality can be generalized to a wide range of cultures and languages, from India to Europe and in the black and white, etc., and all of them sought to investigate how humans understand the world and how they fit into the world to survive. Also, examining individual qualities based on the requirements of different occupations and positions for optimum utilization of human resources is one of the most important goals (10). The Myers-Briggs Type Indicator (MBTI) is a model developed by a mother and her daughter in the 1950s based on Jung's theory of personality (determining personality types) and was strongly supported by different organizations and individuals (11). In this model, our preferences (1: interact with others, 2: collect information, 3: decide what we experience, 4: control ourselves and the world around us) are based on different personality types and no type is superior to the other. There is also no perfect and ideal personality type. All people have specific preferences and having certain preferences is not a matter of "right/wrong" and they all refer to the nature and feelings of people (12). In this research, Myers and Briggs theory is used as a base

for determining the taxonomy of personality traits (personal characteristics).

## Method: Best Fit Framework Synthesis

The method known as “Best fit framework synthesis” plays a prominent role in synthesis of the studies. It is an attempt to provide an extensive and comprehensive tool for collecting, analyzing and evaluating activities performed in the health services system. Due to the growing demand for the development of professional people with the basics of practical knowledge, it is necessary to distance away from some specific features and move towards understanding and perceiving factors capable of generalization which affect performance as well as improve the interventions. The insights generated by theories open up the possibility for doing such activity and especially help professionals understand what they should do and also facilitate the conditions under which actions are performed. A really good practical way to get such an insight is applying the “Best fit framework synthesis” method. This method is known as a pragmatic method in studies using the synthesis approach. The “best fit” approach is different from other synthesis methods in two ways. First, in this method, an initial framework is created for the extracted and analyzed data, secondly, in this method, deductive analysis (framework) and inductive analysis (thematic) are combined together which have not clearly and precisely been reported in any other synthesis method. Also, due to the deductive nature of the presented method, and its quality guarantee during the study, generalizability has been greatly increased. This method also provides the possibility for studying a large number of documents (13, 14). In studies using the synthesis approach, the systematic review of resources is considered as one of the principles by which performance in health system can be enriched and improved. This principle has been implemented in the “Best fit framework synthesis” method in the best way. Also,

important operational principles of the “Best fit framework synthesis” method are derived from the analysis of initial data framework. The framework analysis method has been adapted to studies with highly specialized questions in which the time limit and the discussed topic are of priority. Although the framework analysis may create some theories, its first concern is explaining and interpreting the things happening in a particular situation (15).

The “Best fit framework synthesis” technique is based on the following seven steps:

1. Determine a team composed of experts from fields of promotion, based on applying the systematic review of resources approach.
  - 2.1. Comprehensive searching team systematically determines the publications related to the desired field as much as possible.
  - 2.2 In a parallel process, the team retrieves examples of theories, methods, as well as opportunities from the studies related to the topic, and deliberately applies complementary search methods in this regard.
- A brief summary of behavioral theories or evidence-based performance models may provide useful starting points for the best framework synthesis. Note that it is not necessary for theoretical frameworks to represent the problem and/or documentation in the best possible way. It is only necessary to suggest enough good starting points to design the “best fit”.
- 3-1. Data extraction from the studies entered into the review process and evaluation of research quality.
- 3.2. Once the team determines one or more related theories or related models, they reduce the themes, factors, or concepts of multiple models or frameworks to a single operational framework.
4. The team may synthesize second-hand data from the reports published in the initial study, then place the data extracted from the studies into framework sub-groups.
5. If the team had some data that was not adapted to the main framework, it could modify the framework by adding other concepts from the data generated by thematic analysis which

fully specify the framework for the intended questions, interventions and situations.

6. Concepts developed from the initial framework or the subsequent thematic analysis are merged to create a broad new thematic framework. We can hereby clarify which concepts in the final synthesis are based on already existing theories and frameworks (it is verified by the extracted data) and which concepts are new and derived from the evidence. This clarification indicates the importance and usefulness of “Best fit framework synthesis method” and places it under the systematic evidence synthesis approaches.

7. Finally, the team completes the process of synthesis by searching for the possible associations between concepts and the related theories and evidences obtained from the initial studies. In fact, they reconstruct the concepts determined from the studied framework, and ultimately determine the developed and evaluated conceptual model describing the processes or mechanisms involved in the interventions or behaviors (16).

We searched Scopus, Medline, Google Scholar, Web of Science and Eric databases using the following keywords:

*(ethical OR personal OR professional) AND (trait OR traits OR characteristic OR characteristics OR disposition OR dispositions) AND (medicine OR medical OR physician)*

236 documents were selected by reviewing the titles. In the next round, 73 documents were selected for further studies according to the abstracts of the articles, among which 27 documents were selected by removing duplicates and reviewing the entire text (1-5, 17-40).

## Results

In the process of selecting and reviewing the studies, the goal of synthesis was constantly reviewed in the researcher’s mind and by referring to the literature, it sought to extract structures related to both personality and mental traits. For the synthesis of instances of any concept, a set of documents was used,

and finally the researcher reached a consensus on instances for each concept based on the literature, and this consensus of opinion in the mind of the researcher was combined with the insight created in the study and review process and eventually the instances of each concept were synthesized.

In the following, an analytical-supplementary definition developed by the researcher in a separate research will be first presented for each concept. Then, instances are identified for each concept up to three levels, and for the first and second instances, some clarifications have been provided separately, and we avoided explaining third instances due to clarity.

### *Researcher’s Definition of Mental Traits*

“Overarching habits of mind following the requirements of a disciplined mind (Fair mindedness, humility, courage, empathy, integrity, autonomy, and intellectual perseverance) and an undisciplined mind (intellectual disregard for justice, intellectual arrogance, intellectual cowardice, intellectual self-centeredness, intellectual hypocrisy, intellectual conformity, intellectual laziness, and distrust for reason). These traits provide the basis for constructive scientific contribution as a member of a scientific community and develop through critical discussions of different point of views in a respectful climate with predetermined grand rules.”

### *Taxonomy of Mental Traits*

Level 1: At this stage, two main categories of “disciplined mind and undisciplined mind” were considered for the concept of mental traits so that the main purpose of the definition was achieved.

Level 1.1: Disciplined mind is based on rational principles and logic-based judgments. This process takes place over a long time and makes the person think before doing any action and perform based on organized and targeted principles.

Level 2.1: At this stage, eight main groups

were considered for the concept of disciplined mind, including: “fair mindedness, intellectual humility, intellectual courage, intellectual empathy, intellectual integrity, intellectual autonomy, intellectually perseverance, and confidence in reasoning”. (figure 1)

*Fair mindedness* is associated with a person with a fair mind who attempts to always be fair and reasonable and gain others’ viewpoints. This person is known as a fair person among people.

*Intellectual humility* is based on the consciousness of the limits of human knowledge. It is sensitive to the fact that inherent self-centeredness is likely to make self-deception and it makes the person be always conscious of individual mistakes, early judgments, limited viewpoints and a lot of other things cannot be taken into account. This type of intellectual humility depends on how much one avoids claiming more than he actually knows.

*Intellectual courage* is based on the consciousness of the requirements in facing and fairly addressing ideas, beliefs, or viewpoints with someone who has strong self-centered emotions towards them or a person who is not a very good listener. Intellectual courage is associated

with determination of ideas considered socially dangerous or to be judged in a very special kind of way.

*Intellectual empathy* is based on the consciousness of the requirements in putting oneself in the place of others and understanding them genuinely. It requires us to accurately reconstruct the viewpoints and arguments of the individual regarding his premises and assumptions, regardless of our own premises and assumptions. This attribute is associated with the desire to remember occasions in which the person may have made some mistakes in the past and insists on saying that he did not make mistakes and also the ability to imagine that we ourselves may make a mistake in the same occasion.

*Intellectual integrity* is based on the determination of the requirements in being true to one’s own thoughts and being consistent in those standards that one expects others to meet. It means that we should be consistent in maintaining strict and high standards. It also means that we should honestly accept our intellectual and functional deficiencies and inconsistencies and have the ability to recognize these deficiencies.

*Intellectual Autonomy* is associated with the

| Mental Traits1: Disciplined Mind |  |
|----------------------------------|--|
| Fair mindedness                  | 1-consciousness of all viewpoints<br>2-Implies adherence to intellectual standards                           |
| Intellectual Humility            | 1-Consciousness of the limits 2-Recognizing claims 3-Insight into the logical foundations                    |
| Intellectual Courage             | 1- fairly address ideas 2- Recognition of true worth of ideas 3- Dare to question                            |
| Intellectual Empathy             | 1-put oneself in the place of others 2- reconstruct accurately the viewpoints 3- remember occasions          |
| Intellectual Integrity           | 1-be true to one's own 2- consistent in the intellectual standards 3-practice what one advocates for others  |
| Intellectual Autonomy            | 1- rational control of one's beliefs, values, 2-Learn to think for oneself 3-Gain command over one's thought |
| Intellectual Perseverance        | 1- Use intellectual insights and truths in spite of difficulties 2- Firm adherence to rational principles    |
| Confidence In Reasoning          | 1-Developing their own rational faculties<br>2-Think logically 3-Draw reasonable conclusions                 |

Figure 1: Disciplined Mind Taxonomy

internal motivation which is based on the ideas we have for ourselves and the rational autonomy about our beliefs, our values and the way we think. One must not rely on others to have intellectual orientation and gain command over one’s thoughts.

*Intellectual Perseverance* is based on working continuously despite the difficulties and frustrations inherent in the task. There are some complicated problems which cannot be solved easily. A person with intellectual perseverance does not give up easily and does not avoid facing problems. He has firm adherence to rational principles despite the unreasonable position of others, entails a realistic sense of the need to struggle with confusions and confront them, and thinks about problems over time to gain intellectual insight and understanding.

*Confidence in reasoning* is based on one’s belief in confirming what is consistent with logic and the fact that the value of every reasoning is associated with its logicity and rationality. It drives the individual to trust himself and the available facilities to apply a correct and logical reasoning and trust in the obtained result. Level 2.1: Undisciplined mind is a mind in which constituent foundations and principles don’t seem

logical and reasonable. These principles are not consistent, leads the person to be inconsistent in actions, avoid the individual managing his thought and actions and leads to taking actions without any specific purpose and plan, based on transient feelings, and without passing through the filter of thought. (Figure 2)

Level 2.2: At this stage, eight main groups were considered for the concept of undisciplined mind, including: “intellectual disregard for justice, intellectual arrogance, intellectual cowardice, intellectual self-centeredness, intellectual hypocrisy, intellectual conformity, intellectual laziness, and distrust for reason”. *Intellectual disregard for justice* is associated with a type of person that intellectually disregards some aspects in actions which have a significant effect on the obtained result and strives to act with biased judgments and conclusions.

*Intellectual arrogance* is based on megalomania and egotism. It is associated with a type of person who clearly senses some weaknesses and tries to overcome them using this defense system in order to strengthen the sense of weakness in others.

*Intellectual cowardice* is based on the fears raised from the desire to protect one’s interests.

| Mental Traits2: Undisciplined Mind        |   |
|---|---|
| <b>Intellectual Disregard For Justice</b> | 1-be intellectually unfair 2- Lack a sense of responsibility<br>3- See ourselves as right 4- Self-deception     |
| <b>Intellectual Arrogance</b>             | 1- Regard themselves as the only truth 2-Refuse to see the bigger picture 3-State and a frame of mind           |
| <b>Intellectual Cowardice</b>             | 1- Afraid of giving consideration to ideas 2-Feels threatened by ideas 3-Fear of shown to be wrong              |
| <b>Intellectual Self Centeredness</b>     | 1-Egocentric tendency to identify truth 2- focused on ourselves 3- Unable to consider issues from all viewpoint |
| <b>Intellectual Hypocrisy</b>             | 1-Unconcerned with true honesty 2-Project a positive image 3-Self serving mind                                  |
| <b>Intellectual Conformity</b>            | 1- Like mirrors reflecting the belief systems 2- Lack the intellectual skills and the incentive                 |
| <b>Intellectual Laziness</b>              | 1- Tendency to give up quickly 2- Low tolerance 3- Cut themselves off from the many insights available          |
| <b>Distrust For Reason</b>                | 1-Feel threatened by good reasoning 2-Are not adept at analyzing their views 3-Live in an irrational world      |

Figure 2: Undisciplined Mind Taxonomy

A person with this kind of trait refuses to take required actions just to maintain his position and avoid dangers that threaten his position. *Intellectual self-centeredness* is based on the mere attention to oneself and not considering others in different situations and trying to reach one's own desires, although it might threaten others.

*Intellectual hypocrisy* is based on an attempt to show oneself contrary to the inner truth and satisfy the present individuals, even if this satisfaction leads to harming others or other groups who are not present.

*Intellectual conformity* is considered as the conformity with individuals, situations and conditions based on personal interests, not correctness of actions and functions.

*Intellectual laziness* is based on refusing to act on the task oneself has the ability and facilities to do it, in order to reduce his/her burden and responsibility.

*Distrust for reason* is based on one's own belief in ineffectiveness of logic in real life and unreality of all reasons and arguments and belief in accidental nature of issues and events. It argues that if there is logic, order and reasoning in one's personal affairs, he would not be able to achieve that logic and its subsequent reasoning.

### **Researcher's Definition of Personal Characteristics**

"The pervasive and personal characteristics following the requirements of alertness, self-confidence, dependability, initiative, flexibility, desire to excel, adaptability, originality, and sociability. These characteristics provide more acceptance and influence as a team member and develop through role playing, role modeling, mentoring and apprenticeship in a planned and regulated community of practice."

### **Taxonomy of Personal Characteristics**

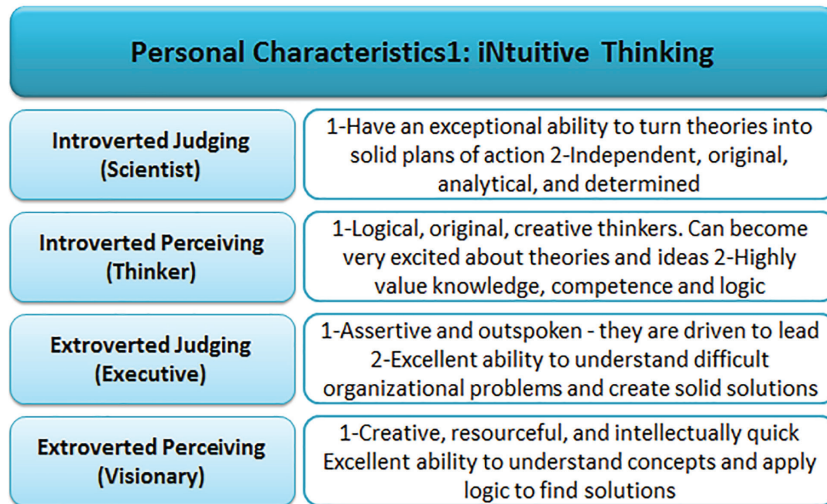
Based on extensive research carried out by prominent experts in the field of psychology, it is found that there are four different dichotomies of states in which individuals are involved in.

In order to perfectly understand the personality characteristics, the extreme states of both parts of dichotomy have been considered. Combining the above-mentioned 8 states, particular personality traits have been revealed in person. It should be noted that accurate examination of personality traits requires considering each individual as a unique creature and determining their precise position in each of the four dichotomies. However, by doing so, it's still not feasible to state certainly and precisely what type of personality traits does each individual has, because both measuring instruments are incomplete and human beings have ever-changing nature. Therefore, all these efforts are aimed at familiarizing oneself with different personality types, and to relatively predict people's performance in different situations. Moreover, effective educational programs can be organized to adapt the personality to the goals of the health system and to place people in positions and professions in accordance with specific personality traits. Therefore, four dichotomies of personality were explained for the taxonomy of this concept (personal characteristics). We hope the combination of these four dichotomies will result in a proper definite conclusion about the related characteristics. It prevents ideas, through which understanding and perceiving the content are readily provided and confusion is avoided. (Figures 3-6)

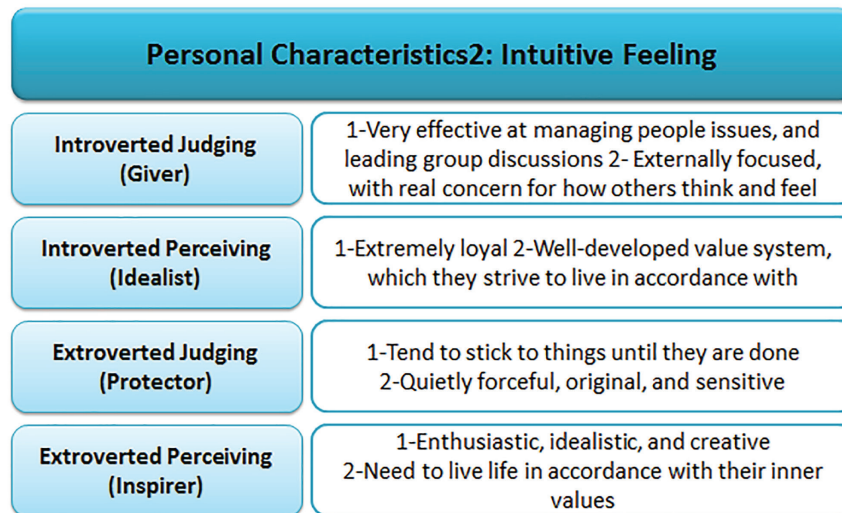
### **Four main Dichotomies from Myers and Briggs' Perspective**

#### **Extraversion (E)/ Introversion (I)**

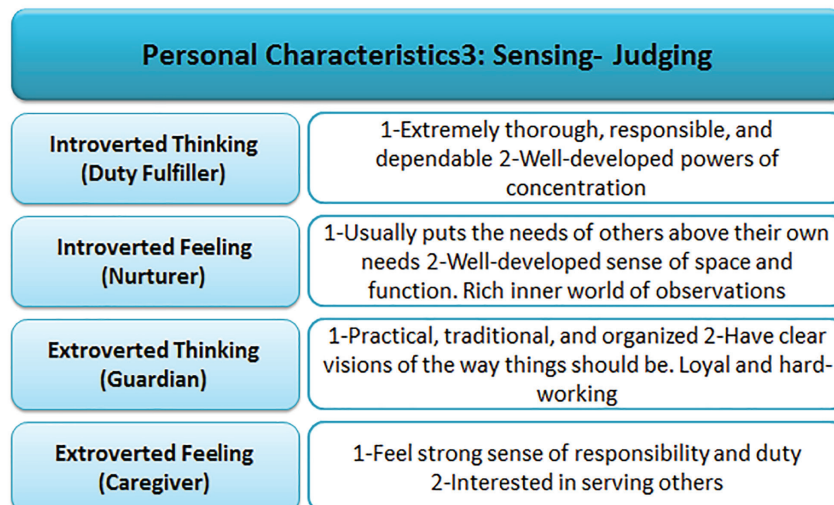
Dichotomy of extraversion- introversion was first studied by Jung in the theory of personality type to describe the way people deal with the world around them. Although these terms are familiar to most people, their meaning and function in this theory are a little different from their general use. Extraverts look outside of themselves, have an activity-oriented personality type, enjoy more social relationships, take energy from spending time with others and feel joyful. Introverts look inside themselves, are thinking-oriented, enjoy a meaningful and



**Figure 3:** Intuitive Thinking

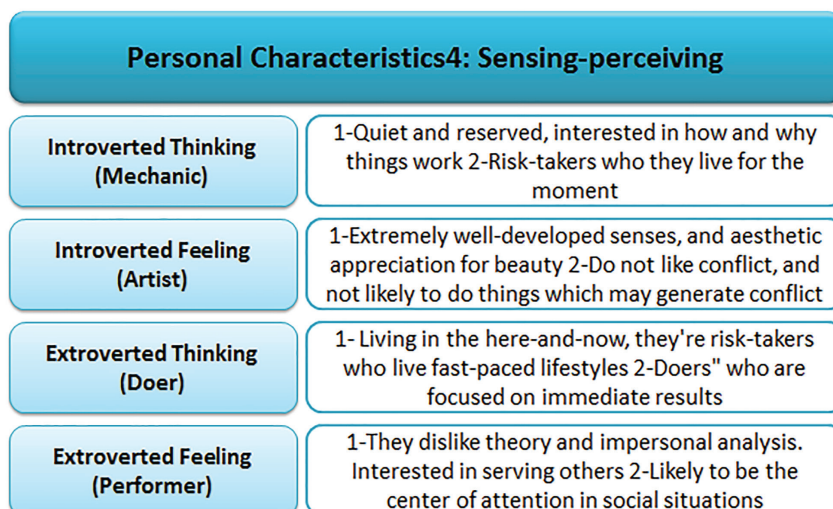


**Figure 4:** Intuitive Feeling



**Figure 5:** Sensing-Judging





**Figure 6:** Sensing-Perceiving

deep social relationship and feel energetic after being alone for a while. We all show signs of both introversion and extraversion. But most people show more tendencies towards one of these dichotomies.

#### Sensing (S) / Intuition (N)

This dichotomy indicates how individuals collect information from their surroundings. As it is said in the case of introversion and extraversion, all people, depending on the situation, both feel the world around them and find information intuitively (instinctively). But according to the Myers-Briggs indicator, each person has more tendencies to one of these dichotomies.

A person who prefers to receive sensing pays too much attention to reality, especially to what can be perceived and learned through his five senses. These people usually focus on facts and details and enjoy practical works. But those who prefer to receive intuition are more concerned with things like inspiration and inference and enjoy thinking of probabilities, future imagination, and abstract theories.

#### Thinking (T) /Feeling (F)

The focus of this personality dimension is on how a person decides after receiving sensory or intuitive information. Those who prefer thinking rely on facts and information impartially. These people usually have a consistent, rational, and impartial behavior in making decisions. But those who prefer feeling may engage individuals

and feelings in their reasoning more than others.

#### Judging (J) / Perception (P)

The last dichotomy is more concerned with dealing with the outside world. Those who are inclined to judging prefer regularity and decisive decisions. People who are more inclined to perception are more open, flexible, and consistent with different circumstances. These two states are related to the three previous dichotomies/dimensions. Remember that all people spend some time on extraversion. The judging-perception dichotomy determines whether you are an extrovert in receiving information (using sensing or intuition) or making decisions (based on thinking or feeling) (41).

## Discussion and Conclusion

Educational specialists have been working for many years to develop a mechanism for introducing people into the education system who have the greatest chance of success and attaining professional goals (42). So far, all of these efforts have been done in a one-dimensional manner with a focus on personality traits. In this research, an attempt was made to give a comprehensive picture of the individual as a human being with different dimensions having distinct internal and external aspects, consider mental traits along with personality traits (personal characteristics), increase

recognition of personality variation, and increase the probability of accurate planning to increase the chances of achieving professional personnel goals in the health system. In this study, various types and traits were clarified in three levels. In future research, we intend to develop a basis for creating a comprehensive mechanism for addressing mental traits and personality traits (personal characteristics) at the curriculum level, so that the pattern of a perfect inspirational path from defining and recognizing the personality to entering it into the curriculum and putting it into practice would be set for educational planners.

**Conflict of Interest:** None Declared.

## References

1. BMA. Medical ethics today. 3rd ed. London: BMA; 2012.
2. Hall D. Reflecting on Redfern: What can we learn from the Alder Hey story? *Arch Dis Child*. 2001;84:455-6. Doi: 10.1136/adc.84.6.455
3. Kennedy I. Learning from Bristol: The report of the public inquiry into children's heart surgery at the Bristol Royal Infirmary 1984-1995. London: The Stationery Office Books; 2001.
4. Firth-Cozens J. Doctors, their wellbeing, and their stress. *BMJ*. 2003;326:670-1. Doi: 10.1136/bmj.326.7391.670
5. Rizo CA. What's a good doctor and how do you make one? *BMJ*. 2002;325(7366):711. Doi:10.1136/bmj.325.7366.711
6. Jung C. Psychological types. New York: Harcourt Brace; 1923.
7. Nomi T, Beshar A. You are your blood type. New York: Pocket Books; 1983.
8. Oldenburg D. Typing a cast of character. *The Washington Post*. 1988.
9. Digman JM. Personality structure: Emergence of the five-factor model. *Annu Rev Psychol*. 1990;41:417-40. Doi: 10.1146/annurev.ps.41.020190.002221
10. Saucier G, Hampson SE, Goldberg LR. Cross-language studies of lexical personality factors. *Advances in personality psychology*. 2000;1:1-36.
11. Bayne R. The Myers-Briggs type indicator: A critical review and practical guide. London: Chapman and Hall; 1995.
12. Barr L, Barr N. The leadership equation: Leadership, management and the Myers-Briggs. Austin, Texas: Eakin Press; 1989.
13. Booth A, Carroll C. How to build up the actionable knowledge base: the role of "best fit" framework synthesis for studies of improvement in healthcare. *BMJ Qual Saf*. 2015;24(11):700-8. Doi: 10.1136/bmjqs-2014-003642
14. Davidoff F, Dixon-Woods M, Leviton L, Michie S. Demystifying theory and its use in improvement. *BMJ Qual Saf*. 2015;24:228-38. Doi: 10.1136/bmjqs-2014-003627
15. Sandelowski M. Reading, writing and systematic review. *J Adv Nurs*. 2008;64:104-10. Doi: 10.1111/j.1365-2648.2008.04813.x
16. Rycroft-Malone J, Bucknall T. Models and frameworks for implementing evidence-based practice: Linking evidence to action. Hoboken, New Jersey: Wiley; 2010.
17. Mirzazadeh A, Mortaz Hejri S, Jalili M, Asghari F, Labaf A, Sedaghat Siyahkal M, et al. Defining a competency framework: The first step toward competency-based medical education. *Acta Med Iran*. 2014;52:710-6.
18. Fuchs J. (Dissertation). An exploratory survey of competency frameworked managerial talent for service delivery in local government. South Africa: Durban University of Technology; 2018.
19. Robinson R. Living, learning, linking: The 3LPlace transition curriculum [Internet]. New York: 3lplace; c2015. Available from: [http://3lplace.org/files/1314/9252/4930/3LPlace\\_Transition\\_Curriculum.pdf](http://3lplace.org/files/1314/9252/4930/3LPlace_Transition_Curriculum.pdf)
20. Williamson CD. (Dissertation). Community college student performance: The effects of a remedial intervention, demographic factors, and psychological factors on student achievement and retention. Doha: Carnegie

- Mellon University; 2016.
21. Paadi K. Perceptions on employability skills necessary to enhance human resource management graduates prospects of securing a relevant place in the labour market. *Eur Sci J.* 2014;15:129-43.
  22. Nicholson NS. Personality characteristics of interpreter trainees: The myers-briggs type indicator (MBTI). Trieste: EUT - Edizioni Università di Trieste; 2005.
  23. Kerr SP, Kerr WR, Xu T. Personality traits of entrepreneurs: A review of recent literature. Massachusetts: Harvard buseness school; 2017.
  24. Obschonka M, Stuetzer M. Integrating psychological approaches to entrepreneurship: The entrepreneurial personality system (EPS). *Small Business Economics.* 2017;49:203-31. Doi: 10.1007/s11187-016-9821-y
  25. Krueger RF, Schmutte PS, Caspi A, Moffitt TE, Campbell K, Silva PA. Personality traits are linked to crime among men and women: Evidence from a birth cohort. *J Abnorm Psychol.* 1994;103:328-38. Doi: 10.1037//0021-843x.103.2.328
  26. McAdams DP, Pals JL. A new big five: Fundamental principles for an integrative science of personality. *Am Psychol.* 2006;61:204-17. Doi: 10.1037/0003-066x.61.3.204
  27. Colker LJ. Twelve characteristics of effective early childhood teachers [Internet]. Washington, D.C: Beyond the Journal, Young Children; c2008. Available from: [https://www.researchgate.net/publication/292062700\\_Twelve\\_characteristics\\_of\\_effective\\_early\\_childhood\\_teachers](https://www.researchgate.net/publication/292062700_Twelve_characteristics_of_effective_early_childhood_teachers)
  28. Bandura A. A social cognitive theory of personality. In: Pervin L, John O, Eds. *Handbook of personality.* 2nd ed. New York: Guilford Publications; 1999.
  29. John OP, Srivastava S. The big-five trait taxonomy: history, measurement, and theoretical perspectives. In: Pervin L, John O, Eds. *Handbook of personality.* 2nd ed. New York: Guilford Publications; 1999.
  30. Ferry K. Korn Ferry leadership architect: Research guide and technical manual [Internet]. Minneapolis, MN: Korn Ferry; c2014. Available from: [http://static.kornferry.com/media/sidebar\\_downloads/KFLA\\_Technical\\_Manual.pdf](http://static.kornferry.com/media/sidebar_downloads/KFLA_Technical_Manual.pdf)
  31. OPM. The APHIS leadership development toolkit [Internet]. Washangton DC: U.S. Office Of Personnel Management; c2013. Available from: [https://www.opm.gov/WIKI/uploads/docs/Wiki/OPM/training/Leadership\\_Toolkit.pdf](https://www.opm.gov/WIKI/uploads/docs/Wiki/OPM/training/Leadership_Toolkit.pdf)
  32. Bogo M, Regehr C, Woodford M, Hughes J, Power R, Regehr G. Beyond competencies: Field instructors' descriptions of student performance. *J Soc Work Educ.* 2006;42:579-94. Doi: 10.5175/JSWE.2006.200404145
  33. Toastmasters. Thinking tools to enhance your life. Evolving into a balanced critical thinker [Internet]. Santa Monica: Westside toastmasters, for public speaking and leadership education. Available from: [https://westsidet Toastmasters.com/resources/thinking\\_tools/ch03.html](https://westsidet Toastmasters.com/resources/thinking_tools/ch03.html)
  34. Mid Staffordshire NHS Foundation Trust Public Inquiry, Francis R. Report of the mid staffordshire nhs foundation trust public inquiry: Executive summary. London: Stationery Office; 2013.
  35. Sokol D. A guide to the Hippocratic Oath [internet]. London: BBC News; c2008. Available from: <http://news.bbc.co.uk/2/hi/health/7654432.stm>
  36. Moore J. What Sir Luke Fildes' 1887 painting the doctor can teach us about the practice of medicine today. *Br J Gen Pract.* 2008;58:210-3. Doi: 10.3399/bjgp08X279571
  37. Ham C, Alberti KG. The medical profession, the public, and the government. *BMJ.* 2002;324:838-42. Doi: 10.1136/bmj.324.7341.838
  38. Borgstrom E, Cohn S, Barclay S. Medical professionalism: conflicting values for tomorrow's doctors. *J Gen Intern Med.* 2010;25:1330-6. Doi: 10.1007/s11606-010-1485-8
  39. General Medical Council. The state of

- medical education and practice in UK London [Internet]. London: GMC, c2012. Available from: <https://www.gmc-uk.org/about/what-we-do-and-why/data-and-research/the-state-of-medical-education-and-practice-in-the-uk>
40. Boerma W, Fleming D. The role of general practice in primary health care. London: The Stationery Office; 1998.
  41. Myers IB, McCaulley MH, Quenk NL, Hammer AL. MBTI manual: A guide to the development and use of the Myers-Briggs type indicator. 3rd ed. Palo Alto, CA: Consulting Psychologists Press; 1998.
  42. Keirsey D, Bates MM. Please understand me: an essay on temperament styles. 3rd ed. Carlsbad, CA: Prometheus Nemesis Books; 1978.