

Expertise and insight for the future

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Personality Type Theory in the Workplace

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The importance of finding and promoting the right employees in a workplace cannot be overstated. Companies invest significant amounts of time and resources into identifying suitable candidates to ensure long-term profitability and success. One approach commonly employed by organizations to aid in this process is the use of personality tests. This thesis explores the use of personality tests in the professional setting, specifically focusing on the Myers-Briggs Type Indicator (MBTI), the Big Five personality traits, the Enneagram, and Psychometric testing. The study investigates the interconnection of these tests and evaluates their effectiveness in promoting harmonious workplace relationships and improving productivity. The research also examines the controversies surrounding the use of personality tests, including concerns about discrimination in hiring practices. Additionally, the study investigates the relationship between personality traits and leadership styles, with a particular focus on transformational leadership, which is positively related to extroversion, openness, and conscientiousness. The findings suggest that personality tests can be an effective tool when used correctly and in conjunction with extensive research and facts. Ultimately, this thesis highlights the importance of identifying and promoting the right employees to ensure a productive and profitable workplace environment.

personality testing, MBTI, Enneagram, Big Five, Psychometric testing, workplace relationship, hiring practices

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1 Introduction

Several multi-billion-dollar companies, as well as big players in the corporate sector, invest in different kinds of ways to maximize profit, increase their success rate, beat competitors, create innovations, hire the best-fit candidates, and promote the best person there is for their upper-level management. It is undebatable that any company would invest large amounts of money, up to millions and even billions of dollars into research and development, for the image of the company, marketing, infrastructures, and their workforce and employees. (Boitnott, 2017)

The author raises questions about the willingness of companies to invest in finding suitable employees, whether the investment is worthwhile, and the ethical, fair, and legal implications of the results for both the company and the employees being tested. Additionally, the author wonders how companies go about identifying the right candidates for the job.

In his article, Leikvoll (2022) mentions that "80% of Fortune 500 companies are using personality type tests to vet for upper-level positions" and that "32% of Human Resource professionals use it to vet executive roles and 28%... for middle-management positions."

Melinda Ham states that organizations such as General Motors, Procter & Gamble, and McKinsey & Co. use the MBTI to help manage people... Companies such as JDSU say that implementing the MBTI increases job effectiveness for 98 percent of participants, saving the company \$20 million. (Shaules, 2016)

Furthermore, according to Brooke (2016), "putting employees in roles that do not fit their personality results in 21% lower productivity, 22% lower profitability, and an average of 45% higher turnover."

For a company to gain success, employee satisfaction with its working environment is crucial. Companies take into consideration having the right kind of candidates in their workplace for the productivity rate of employees to increase and not decrease. According to Glassdoor (2019), 77% of job seekers see good culture as an important factor in their decision-making towards the right company. This is where personality type testing comes

in. They use these kinds of tools to save time and to screen out candidates. If two candidates have the same skills, the companies would require personality test types for both candidates to seek the quality that they are looking for (e.g., who is more extroverted for the job position). Because of this, personality type tests became more used and popularized globally. Currently, there are 80 million people globally that complete a personality type test every year. Thus, this industry reached 2.3 billion USD last 2019. (Leikvoll, 2022)

With all these said, the purpose of this research is to find scientific evidence of whether the statements made about personality type theories are correct and proven and that the research questions are answered at a high standard.

1.1 Research Background and Scope

The scope of this research will include website articles, books, journals, theses, and any other relevant sources. This will not be limited by only one type or topic of a personality type test, however, to minimize such a large topic, this research will only be under the business or workplace category, and not under personal and individual circumstances or uses for personality types. Although the researcher has chosen this specific topic out of belief and passion in this topic relating to Psychology studies, the researcher aims to be neutral and not biased towards only the positive benefits of the current research. Other contradictory and opposing opinions and facts will be measured in fair judgement. Thus, the creation of this whole research topic.

By understanding the different personality types and traits of their employees, companies may be able to create a more diverse and effective workforce. Additionally, this research may also shed light on any potential ethical concerns surrounding personality testing in the workplace and provide recommendations for how companies can ensure the fair and responsible use of these tests. Ultimately, this research seeks to contribute to the advancement of both psychology and business fields, with the hope of creating a more productive and equitable working environment for all.

1.2 Research Questions

The chosen research question(s) for the whole literature review will be encompassing the objectives. This will serve as a guide to the writer if she becomes overwhelmed by all the available topics and gets lost on the way. The primary objective is to analyse whether there are actual differences and effects in companies and whether or not a company uses tests such as personality type tests to structure its organizational hierarchy. The research will also examine what kind of changes the company made following their belief in these kinds of tests, and what methods they used or invested in to achieve these goals. Therefore, the following questions deemed appropriate for this research are:

- 1. Is there evidence showing that companies have higher performance and success rates when having hired employees and forming teams based on/ using personality type tests?
- 2. What is the most accurate personality type test out in the market?
- 3. Is there any relationship between having a certain type of personality (e.g., leader-type personality) and the employee's results in the organizational chart?

2 Personality Type Test Overview

"A personality type test is an introspective self-report questionnaire to help [people] assess [their] personality and behavioural tendencies." (Indeed, 2020).

These kinds of tests are self-administered or given by companies in HR Management or upper-level management to candidates. To self-administer these tests, one may go online and have a wide range of choices to choose from, either free or paid. Usually, for companies requiring personality tests of their candidates and/or employees, it is the employers who shoulder these kinds of expenses.

A potential benefit of using personality type theory in the workplace is improved communication between employees. When individuals understand their own and others' desires, they are able to communicate more effectively and avoid misunderstandings. Additionally, using personality type theory in team building can lead to more effective collaboration and better problem-solving, as individuals with different strengths and preferences can complement each other. Another potential benefit is increased job satisfaction. When employees are given tasks that match their preferences and strengths, they are more likely to be engaged and satisfied with their work (Harms & Credé, 2010). This can improve performance and productivity and reduce turnover and delays.

A possible drawback of personality type theory is its tendency to simplify complex human behaviour. Even though personality type theory can provide useful insights into individual preferences and strengths, it does not take the whole complexity of human behaviour and personality. Furthermore, personality traits can be influenced by several factors, including cultural background, life experiences, and personal development (Boyle, 1995).

In the following sections, several different kinds of personality type tests will be explained.

2.1 Myers-Briggs Type Indicator

The history of the theory of personality types can be traced back to the early 20th century in the writings of the Swiss psychiatrist Carl Jung, who proposed the concept of psychological types. According to Jung, individuals have natural preferences for receiving and processing information, which he divides into four dichotomies (See 2.1.2).

Catherine Briggs, a mother, and homemaker became interested in Jung's work in the 1920s and began studying his theories and applying them to her family and friends. She became very interested in the practical application of personality type theory and began working with her daughter, Isabel Myers, to develop a questionnaire to assess individuals' preferences for Jungian quartiles.

Over the decades, Briggs and Myers continued to enhance their questionnaire, testing it with family and friends and collecting data to improve its accuracy and utility. The original version of the questionnaire was published in 1943, and over the years it became the Myers-Briggs Type Indicator (MBTI), one of the most widely used personality assessment tools in the world today and is used in different settings like workplaces, schools, and counselling centres. The MBTI is based on Jung's theory of psychological types but combines additional insights and improvements developed by Briggs and Myers. The questionnaire consists of a series of forced-choice questions that ask people to choose between two statements that describe different ways of perceiving or processing information. The responses were scored and used to determine a person's preference for each of the four dichotomies.

According to Myers-Briggs (n. d.), the purpose of the MBTI is "created to help people better understand themselves and those around them. It allows people to appreciate and respect differences for better communications, relationships, teamwork, and a better life." Additionally, it mentions that the test gives "insights into [a] team's dynamics and reveals strengths and potential blind spots so that [the leader/manager] can maximize team effectiveness". The original MBTI is copyrighted and is not free for use. There is

an available package for team purposes (3-30 individuals) that costs 99.95 USD per participant¹.

While there has been criticism regarding its validity and reliability, many practitioners continue to find the MBTI useful in practice. One of the reasons for its continuous use is that the MBTI has proven some effectiveness in predicting certain behaviours and outcomes. For example, research has found that individuals who score higher on the extroverted dimension are more likely to engage in social activities, while those who score higher on the introverted dimension are more likely to engage in solitary activities (McCrae & Costa, 1999).

In addition, the MBTI can provide valuable insight into personal strengths and weaknesses and preferred types of work. This is useful for both personal and professional development, as individuals can better understand their own tendencies and adjust their behaviour to suit their goals and circumstances better. It can also be useful in team settings, as team members gain a better understanding of how each other communicates and operates, resulting in more effective collaboration.

Furnham and Crump (2005) conducted a study supporting the validity of the MBTI. The study analysed the personality profiles of 112 managers using the MBTI and found that the managers' personality profiles corresponded to their job performance and leadership style. The researchers concluded that the MBTI can be a useful tool for the selection and development of managers.

One study that found a link between personality-job fit and job satisfaction is "Personality profiles for hospitality employees: Impact on job performance and satisfaction" by Lan, Wong, and Zeng (2021). The study found that there was a positive relationship between personality-job fit and job satisfaction and that employees who perceived a good fit between their personality and their job reported higher levels of job satisfaction.

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¹ Please be advised that the pricing information provided for the MBTI is subject to change over time. For the most up-to-date pricing information, please refer to the official website of the MBTI assessment.

In addition, Pittenger's (2005) meta-analysis concluded that the MBTI is a reliable tool for assessing personality types. The analysis reviewed 16 previous studies and found that the MBTI has good test-retest reliability and internal consistency.

2.1.1 Users of the MBTI

"The MBTI generates over \$2 billion in revenue yearly, with every one in five companies on the Fortune 100 list, McKinsey & Company, the CIA, the Department of State using it." (Kakovkina, 2020)

Ernst & Young

Marriott

Global hotel chain leads the way to customer satisfaction utilising the MBTI assessment in staff

MBTI assessment in staff

METI assessment in staff development.

University of Alberta

University of Alberta

MBTI tool helps University of Alberta

MBAs master themselves.

University of Alberta

Air Force Acquisition Integration

Group leverages assessments to U.S. Air Force

National Australia Bank

Beauty Kitchen

How to lead the market for sustainable beauty products.

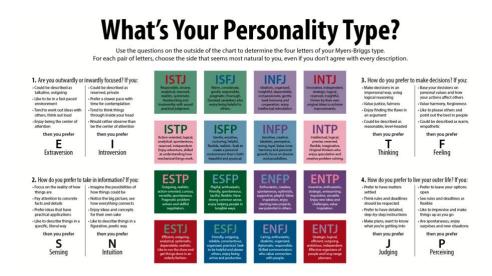
increase self-awareness and improve leadership.

Figure 1. Companies and Users of MBTI (Myers-Briggs Company, n.d.)

2.1.2 Usage of MBTI

A user will fall within 4 categories after taking the MBTI personality test, most usually that results will be ending in a 4-type code under 16 different types existing of:

- Introversion/ Extroversion (I or E)
- Sensing/ Intuition (S or N)
- Thinking/ Feeling (T or F)
- Judging/ Perceiving (J or P)



Myers-Briggs Type Indicator (Image: Jake Beech/Public domain)

Figure 2. MBTI Results (Winchell, 2020)

Figure 2 above has general sample questions in order for the test takers to have a gist or idea of the questions that will be asked on the actual test.

To further dive deeper into the test, the 4 main categories answer to specific questions:

I. Extrovert vs. Introvert

To find out whether a person is an Extrovert or Introvert, they should be assessed with the question: when problems arise, do they look at the problem inwardly or outwardly? There is a conception that Extroverts and Introverts are words to describe how people are sociable. In this matter, this question also pertains to how one recharges. If the person is an extrovert, they find that socializing with several people gives them energy. They are also action oriented. While Introverts prefer to stay alone or have a discussion with one partner in order to recharge and they are thought-oriented.

II. Sensing vs. Intuition

To know whether a person uses Sensing or Intuition, the question: "how do they gather information from the environment around them?" is answered. If a person tends to lean more on their senses (hear, see, feel, touch, taste), then this person prefers absolute fact and details. They do not rely on their hunches when there is no logic behind them. They are better with details. They rely on reality and enjoy a hands-on experience.

People who use intuition, they have a more active imagination, and they think about the possibilities of the future. They look at patterns and impressions.

III. Thinking vs. Feeling

On this scale, one would find out their T or F type after they figure out the second scale from above (Sensing vs Intuition). After assessing that, the answer to the question "what do they do with the information they have gathered" determines their type. If they are on a thinking scale, they rely heavily upon facts and data. They are logical and tend to put personal matters aside when weighing down decisions. The feeling type, they are more sensitive to people's emotions, and they dislike quarrels and conflict as it is stressful for them. They base their decisions based on the perspective of everyone and find a solution where everyone is happy, if possible.

IV. Judging vs. Perceiving

On this final scale, this answers the question "how do they deal or relate with the outside world?". People with Judging preferences tend to be organized and decision oriented. They plan and get things done ahead of time. They prefer structure and do not hesitate to give answers immediately. People with Perceiving preferences, they are on the hesitant side to make decisions. They like their options open and flexible; this makes it hard to conclude a decision. They like to keep observing the matter and are slow to make choices. They adapt to their environment well and are not very stubborn unless their values have been threatened or compromised.

2.1.3 MBTI Criticisms

While the MBTI has been widely used in both personal and professional contexts, it has also been subject to criticism. Some of the criticisms of the MBTI include:

a) Lack of scientific evidence: Critics argue that the MBTI lacks empirical evidence and does not meet scientific standards for reliability and validity. While the test has been used for several decades, its theoretical foundation has been criticized as inadequate and its psychometric properties have been questioned. Several studies have shown that the MBTI fails to demonstrate the consistency and stability necessary for a reliable psychological measure (Boyle, 1995).

- b) Limited predictive power: The MBTI has been criticized for its limited ability to predict behaviour and job performance. While some studies have found that certain personality types are associated with specific job roles or career success, others have found no relationship between personality type and job performance (Hogan, 1989).
- c) Overreliance on dichotomies: The MBTI relies heavily on dichotomies (e.g., extroversion vs. introversion) to categorize people, which can oversimplify the complexity of human personality. Critics argue that the MBTI fails to capture the full range of personality traits and that people can exhibit traits from multiple personality types. (Grant, 2013)
- d) Lack of ethical considerations: Some critics have raised concerns about the use of the MBTI in employment and other contexts, arguing that it can be used to discriminate against certain groups. For example, employers may use the test to screen out job applicants who do not fit into certain personality types, which could lead to discrimination against certain individuals or groups (Pittenger, 2005)

Although the MBTI can be useful for providing information about an individual's preferences and tendencies, it is important to note that the concept of personality is not static. Personality is a dynamic and complicated construct that can change over time and in response to different situations and experiences.

Research has also shown that the MBTI has some limitations and weaknesses. Some studies have found that the MBTI lacks reliability and validity, meaning that it may not always produce consistent results and may not accurately measure what it is intended to measure (Boyle et al., 1995; Pittenger, 2005)

2.2 The Big Five Personality Test

The Big Five Personality Trait Test is a well-recognized and widely researched personality model rooted in lexical research. The hypothesis proposes that core personality traits are encoded in the language people use to describe themselves and others (Goldberg, 1993).

In the 1980s, a group of psychologists including Paul Costa and Robert McCrae developed the Big Five personality trait model based on factor analysis of personality questionnaires from many different cultures and languages. The model identifies five broad personality dimensions (See section 2.2.1). The Big Five model has been extensively studied and has shown strong practical support across cultures and populations and it has been shown to have good reliability and validity and has been used in a variety of research and applied settings such as clinical psychology, organizational psychology, and educational psychology (John & Srivastava, 1999).

The Big Five Personality Test can be taken in a variety of ways, including paper tests and online assessments. It can also be adapted to different languages and cultures and to different groups of people. Overall, the Big Five personality trait model has become one of the most widely accepted and studied personality models, its popularity is due to its empirical support and ability to predict various aspects of behavioural and psychological outcomes (Barrick & Mount, 1991; McCrae & Coase Tower, 1997).

2.2.1 The 5 Different Personality Types

I. Openness (Intellect/ Culture)

This goes hand in hand with a person's imagination, insight, and creativity. People with high openness have an eagerness to experience new things and learn more than the average person. They have a broader range of interests and are more adventurous when deciding. The type of people who score high in this trait has exotic tastes and different adventurous levels compared to the people around them.

People who are low on this trait tend to have problems going out of their comfort zone and usually stick to their routine or a traditional way to do things.

II. Conscientiousness (Dependability)

Conscientiousness is a trait that includes a high degree of thoughtfulness, excellent impulse control, and goal-oriented behaviour. This organized and structured approach is common in academia and those working in advanced retail finance, which requires detailed direction and organizational skills.

Highly conscientious people regularly plan ahead of time and analyse their behaviour to see how it affects others. The project management team and HR departments regularly have very conscientious people on the team who help balance structural roles within the overall team development.

Low conscientious people dislike structure and schedules and tend to procrastinate and never complete important tasks.

III. Extroversion (Surgency)

This is also known as extroversion (same as with the MBTI description). Talkativeness, thriving on being the centre of attention, enjoy meeting new people are some traits of a person with high extroversion.

The opposite, which is an introvert, who has low traits of extroversion, are usually not very energetic with a lot of people around them or do not gain energy from being surrounded by a lot of interactions.

IV. Agreeableness

Agreeable people display signs of trust, altruism, kindness, and affection. Agreeable people tend to exhibit strong prosocial behaviours and are the type of people who tend to help others.

Sharing, comforting, and collaborating are traits that lend themselves to the highly enjoyable personality type. Empathy for others is commonly understood as another form of consent, even if the terms do not fit perfectly.

Agreeable people tend to find careers in areas where they can best contribute. Philanthropists, medical workers, mental health practitioners, and even those who volunteer at soup kitchens and spend time in the third sector (social studies) are high on the pro list.

V. Neuroticism (Emotional Stability)

Neuroticism is categorised by unhappiness, moodiness, and emotional unpredictability. Often confused with antisocial behaviour or, worse, neuroticism is a physical and emotional response to stress and perceived threat in a person's daily life.

People who score high on this trait are prone to mood swings, anxiety, and irritability and may overthink many situations and find it difficult to relax even in their own space.

Candidates who scored lower in Neuroticism display a more stable and emotionally resilient attitude to stress and situations. They take time to focus on the present moment and do not mentally calculate factors that may induce stress.

2.2.2 How the Big Five Test is Supposed to be Important in the Workplace

According to Thomas (2021), the Big Five test helps by understanding employee relationships, having more effective team building and management, understanding employee motivation, building diverse teams, and optimising interactions and communication. It is also widely accepted that behavioural characteristics change as people get older. People tend to become less extroverted, less neurotic, and less open to new experiences, but more agreeable and conscientious with age.



Figure 3. The Big Five Circle (Bioss, 2020)

- Candidates who score high with the openness trait are willing to learn new skills
 and develop themselves. When faced with more intellectual problems, they tend
 to think in terms of abstract solutions and focus on tackling new problems that
 may have gone unnoticed before.
- Candidates who score high with the conscientiousness trait are interested in getting the work done, meeting deadlines, and being self-motivated. On the other hand, those who are low on this trait need more focus, time, and attention on the task at hand.
- 3. Depending on the role of the candidate, extroverts can be considered by many to be the leader of a team. High extroversion scores work well in environments in which interacting with others can be beneficial. The most common positions of extroverts are in the sales department, marketing, and PR. However, more

technical job settings that require a particular focus or some degree of separation are areas where extroverts are not deemed strong candidates.

- 4. Candidates who score high with the agreeableness trait are well suited for roles that require personal skills and the ability to serve others. Working towards a task is not their strong point.
- Candidates who score high with the neuroticism trait are not suitable for tasks
 that require constant change, strong initiative, or roles that involve high levels of
 stress. However, people with low neurotic scores thrive in such workplace
 scenarios.

Table 1. The different traits and how they are related to the workplace (Powers, 2019)

Big Five Trait	Relevance in the Workplace
	Related to being responsible, dependable, and
	organized. Predicts job performance and job
Conscientiousness	success across a wide range of occupations.
	Related to being cooperative, empathetic, and
	likable. Predicts social skills and interpersonal
	relationships in the workplace. May lead to
Agreeableness	difficulty in making tough decisions.
	Related to being anxious, moody, and prone
	to negative emotions. May lead to lower job
	satisfaction, higher stress levels, and more
Neuroticism	interpersonal conflict.
	Related to being curious, creative, and open-
	minded. May be beneficial in jobs that require
	innovation, creativity, and adaptability to
Openness to experience	change.
	Related to being outgoing, assertive, and
	sociable. May be beneficial in jobs that require
	social interaction, such as sales or
	management. May lead to a lack of attention
	to detail and a tendency to dominate
Extroversion	conversations.

2.2.3 How the Traits are Measured

The Big Five personality traits are usually measured using self-report questionnaires. These questionnaires typically consist of a series of statements or adjectives describing various personality traits, and respondents rate the degree to which each statement applies to them on a Likert scale (e.g., "strongly disagree" to "strongly agree"). For example, a question on a questionnaire measuring extroversion might read: "I like to be the centre of attention." Respondents would then rate the extent to which they agreed or disagreed with the statement.

The specific items used to measure the Big Five traits may vary between test versions or between researchers, but generally cover the same broad areas. Some versions of the Big Five test may also include additional aspects or sub traits within each domain to provide more detailed information about a person's personality.

After completing the questionnaire, the respondents' ratings for each characteristic are usually added or averaged to obtain a numerical score that represents the level of the characteristic. The score for each trait ranges from low to high and is usually displayed relative to another normative sample of the same age, gender, or cultural background. Below are some examples of questions given on the Big Five Personality test:

To test a candidate's openness, scale of "open to trying new experiences" is evaluated. To test a candidate's conscientiousness, scale of "always thinking of others" is evaluated. To test a candidate's extroversion, scale of "the centre of attention at a party" is evaluated.

To test a candidate's agreeableness, scale of "trusting of others" is evaluated.

To test a candidate's neuroticism, scale of "anxious about the future always" is evaluated.

2.2.4 Criticisms of the Big Five

The Big Five personality test, also known as the Five Factor Model (FFM), has gained significant support and empirical evidence over the years (McCrae & Costa, 2008).

However, some experts have criticized the test for its limitations and potential for misinterpretation.

One limitation of the Big Five is that it only measures broad personality traits and does not capture more specific aspects of personality that may be important for certain jobs or tasks (Sackett & Lievens, 2008). In addition, the test may not be culturally sensitive, as it is based on Western theories of personality and may not capture the unique aspects of personality that are important in other cultures (Guanzon-Lapeña et al., 1998).

Furthermore, some have argued that the Big Five test may be prone to social desirability bias, where test takers may answer questions in a way that they believe will be viewed favourably by others (Roberts, Hogan and American Psychological Association, 2002) This can lead to inaccurate results and limit the test's usefulness in hiring and selection processes.

Despite these limitations, the Big Five test remains one of the most widely used personality tests in the world and continues to provide valuable insight into the broad dimensions of human personality.

2.3 Enneagram

The Enneagram is a personality assessment tool that has gained popularity in recent years. It is based on the idea that there are nine distinct personality types (See 2.3.1), each with its own set of characteristics and motivations. The Enneagram is a complex system that not only helps individuals understand themselves better but also provides insights into how they relate to others.

The Enneagram is a tool that has been used for many years in various contexts, including personal growth, career development, and team building. It is widely used in the business world to help individuals better understand their strengths and weaknesses, as well as to improve communication and collaboration in the workplace.

According to Riso and Hudson (1999), the Enneagram's origins are uncertain, and there are different theories about its creation. One theory is that it has its roots in ancient

wisdom traditions, such as Sufism, Kabbalah, and Buddhism. Others believe that it was developed more recently by a group of spiritual seekers in the early 20th century, including George Gurdiieff and Oscar Ichazo.

Ichazo claimed that the Enneagram was revealed to him through a process of introspection and meditation, and he developed the nine personality types as a way to understand human behaviour and motivations (Maitri, 2000). He taught the Enneagram to a group of students in Chile in the 1960s and 1970s, and it eventually spread to other parts of the world, including the United States.

One of Ichazo's students, Claudio Naranjo, further developed the Enneagram and introduced it to the psychological community in the 1970s (Riso & Hudson, 1999). Since then, it has been used in various contexts, including psychotherapy, business consulting, and spiritual development.

Despite its widespread use, the Enneagram has been criticized for its lack of empirical evidence and scientific validation (Riso & Hudson, 1999). However, proponents argue that its usefulness lies in its ability to provide insights and self-awareness, rather than as a diagnostic tool.

2.3.1 The Nine Personality Types

The Enneagram describes nine distinct personality types, each with its own set of motivations, fears, and coping mechanisms. These types are often referred to by number, and they are as follows:

- i. The Perfectionist/Reformer: principled, self-controlled, and idealistic, with a strong desire to improve themselves and the world around them.
- ii. The Helper/Giver: empathetic, supportive, and selfless, with a need to feel appreciated and loved by others.

- iii. The Achiever/Performer: ambitious, driven, and success-oriented, with a desire to be admired and recognized for their accomplishments.
- iv. The Individualist/Romantic: creative, expressive, and sensitive, with a tendency to feel misunderstood and long for deeper connections with others.
- v. The Investigator/Observer: analytical, perceptive, and private, with a need for knowledge and understanding, and a fear of being overwhelmed or intruded upon.
- vi. The Loyalist/Loyal Sceptic: loyal, responsible, and dutiful, with a need for security and a fear of being without guidance or support.
- vii. The Enthusiast/Epicure: optimistic, adventurous, and pleasure-seeking, with a desire for new experiences and a fear of being trapped or deprived.
- viii. The Challenger/Protector: assertive, confident, and protective, with a need for control and a fear of being vulnerable or powerless.
- ix. The Peacemaker/Mediator: agreeable, harmonious, and accommodating, with a desire for peace and a fear of conflict or loss.

Each type is not meant to be a fixed identity but rather a description of patterns of thinking, feeling, and behaving that can be changed and developed over time with self-awareness and growth.

2.3.2 Enneagram Symbol and Explanation

The Enneagram symbol is a nine-pointed geometric figure (See Figure 4) that resembles a circle with lines connecting each point to its neighbouring points. Each point is labelled with a number from 1 to 9, representing one of the nine personality types.

At the centre of the symbol is a triangle, which represents the interconnectedness and integration of the three centres of intelligence: the head, the heart, and the gut. The

head centre (types 5, 6, and 7) is associated with thinking and analysis, the heart centre (types 2, 3, and 4) is associated with feeling and emotions, and the gut centre (types 8, 9, and 1) is associated with instinct and action.

The Enneagram symbol also contains several other important features, such as:

Lines connecting each type to two other types, known as wings, which represent the influence of adjacent types on a person's personality.

Arrows connecting types in specific directions, which represent the movement of a person's personality under stress and growth.

The direction of movement around the circle, which reflects the natural progression of personal growth and development.



Figure 4 The Enneagram with Riso-Hudson Type Names (Enneagram Institute, 2014)

2.3.3 Application of Enneagram in Hiring Process

The Enneagram has been used in job hiring processes as a tool for understanding a candidate's personality traits and potential fit for a specific role within an organization. By using the Enneagram in job hiring, employers can gain insight into a candidate's strengths, weaknesses, and motivations, and can make more informed hiring decisions.

For example, an employer may use the Enneagram to identify which personality type would be the best fit for a particular position. They may also use the Enneagram to determine how a candidate would interact with their colleagues, handle conflicts, and

respond to feedback. Additionally, employers may use the Enneagram to create more effective teams by identifying the different personality types within the team and how they can best work together.

2.3.4 Application of Enneagram in the Workplace

The Enneagram is used in the workplace for a variety of purposes, including individual and team development, conflict resolution, leadership development, and career planning. One reason why the Enneagram is useful in the workplace is that it can help individuals gain a deeper understanding of their own personality and behavioural tendencies. By identifying their Enneagram type, individuals can gain insights into their strengths, weaknesses, and patterns of behaviour. This self-awareness can be valuable in areas such as career development, communication, and conflict resolution. (Renieri, 2021)

The Enneagram can also be used to help individuals and teams improve their interpersonal relationships and communication. By understanding the Enneagram types of their colleagues, individuals can better appreciate their strengths and weaknesses and communicate more effectively. This can lead to improved teamwork and collaboration. Another way the Enneagram is used in the workplace is in leadership development. The Enneagram can help leaders gain insights into their own leadership style and strengths, as well as the strengths and weaknesses of their team members. This can help leaders be more effective in leading their teams and achieving their organizational goals. (Riso and Hudson, 2000)

Finally, the Enneagram can be used in career planning and development. By identifying their Enneagram type and the associated career paths and job roles that are typically well-suited to their type, individuals can gain insights into their strengths and find career paths that are a good fit for their personality and behavioural tendencies.

Overall, the Enneagram can be a valuable tool in the workplace for personal and professional development, improving communication and teamwork, and achieving organizational goals. (Bland, 2010).

2.3.5 Criticisms of the Enneagram's Scientific Validity

While it has gained popularity in recent years, the Enneagram has also faced criticism from various sources.

One of the most common criticisms of the Enneagram is the lack of scientific evidence to support its claims. The Enneagram is largely based on anecdotal evidence, personal experiences, and subjective interpretations, which makes it difficult to verify its accuracy or reliability. A review of Enneagram research conducted by scholars from the University of Amsterdam concluded that "the Enneagram has not been subjected to the scientific scrutiny needed to establish its validity and reliability as a personality assessment tool" (Bland, 2010).

Another criticism of the Enneagram is its lack of consistency across different Enneagram teachers and practitioners. The Enneagram has no standardized set of definitions, and different teachers may have their own interpretations of the nine types. This can lead to confusion and inconsistency in the application of the Enneagram (Hook et al., 2020).

Some critics of the Enneagram argue that its claims are pseudoscientific and lack empirical support. The Enneagram makes claims about the relationship between personality type and various other factors, such as spirituality, emotional intelligence, and leadership style, without clear evidence to support these claims. Additionally, some critics argue that the Enneagram's nine types are too simplistic and do not fully capture the complexity of human personality. They argue that individuals are more nuanced than can be captured by a single personality type, and that the Enneagram's categorization is overly simplistic (Hook et al., 2020).

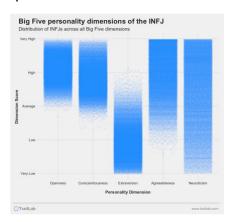
Another criticism of the Enneagram is its lack of cultural diversity. The Enneagram was developed in the Western world and may not fully capture the diversity of personality types and characteristics that exist in other cultures. Critics argue that the Enneagram's focus on individualism may not be applicable to cultures that prioritize collectivism (Bland, 2010).

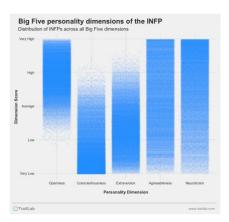
3 The MBTI and Big Five Test Side-to-Side

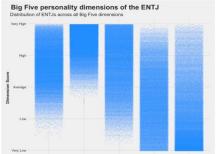
Several peer-reviewed articles detail statistical correlations between the four MBTI scales (Extrovert-Introvert, Sensing-Intuitive, Thinking-Feeling, and Judging-Perceiving) and dimensions of the Big Five classification. When compared, none of the MBTI can map individually to the Big Five. However, the Big Five can be connected to the MBTI scale.

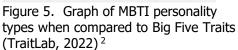
As a result, knowing a person's MBTI type alone cannot predict a person's position in the Big Five dimensions. However, it is possible to estimate the distribution of Big Five dimensions within each MBTI type. These distribution patterns provide insight into the underlying personality variations within each MBTI type.

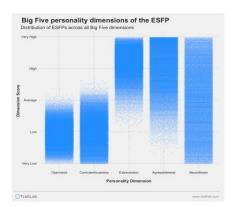
Below are statistics of the Big Five traits with the MBTI dimensions. Each blue dot is equivalent to one individual. The darker the shades of blue, the more individuals are positioned in the area.











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² See appendix 1 for the rest of the graphs

All the figures above correlate with each different MBTI personality type (16 personality types) which shows that most personality types in MBTI can be correlated to a distinguished personality trait in the Big Five.

Myers-Briggs Introversion (I) - Extraversion (E) Sensing (S) - Intuition (N) Thinking (T) - Feeling (F) Judging (J) - Perceiving (P) *The final Big Five factor, Neuroticism, is not applicable here

Figure 6. Comparison of MBTI & Big Five (Drenth, n.d.)

Table 2. MBTI vs Big Five

MBTI	Big Five
Measures four dichotomous dimensions: extroversion/introversion, sensing/intuition, thinking/feeling, and judging/perceiving.	Measures five continuous dimensions: extroversion, agreeableness, conscientiousness, neuroticism, and openness to experience.
Based on Jungian theory and assumes that people have distinct, innate psychological types.	Based on empirical research and assumes that people vary along a continuum of five broad personality traits.
Provides a categorical classification of personality type (e.g., ISTJ, ENFP).	Provides a dimensional score for each trait (e.g., high extroversion, low neuroticism).
Has been criticized for poor validity and reliability, lack of theoretical grounding, and potential for stereotyping.	Has stronger empirical support and is widely accepted among personality researchers.
Has been used primarily in career counselling and leadership development contexts.	Has been used in a variety of research and applied settings, including personnel selection and organizational psychology.

4 The Difference between Personality vs Behaviour

According to Thomas (2022), "behaviour and personality are two different characteristics that can be used to define [a person]." Personality defines as the "combination of values, views, set responses, patterns of thought and characteristics which are relatively stable aspects of an individual." While behaviour is "how that individual comes across to others in their actions."

To summarize, personality is how an individual feel, thinks, and why they are behaving in a certain way, and behaviour answers to what an individual does.

This debates that only having an employee take a personality test based on a person's prescribed personality type independently is not ethical, accurate or fair (Leikvoll, 2022).

To back this statement, Leikvoll (2022) has added some companies that have faced discrimination charges due to their discrimination against applicants that have responded in unusual ways. A table has been created to simplify the companies' violations and solutions as follows:

Table 3. Companies and their violations of the use of personality testing

COMPANY	LAW VIOLATION	SOLUTION
Best Buy	Title VII of the Civil Rights Act of 1964 by using personality tests during the application process from 2003 to 2010.	Discontinued the use of the personality tests. Instituted national "best practices," modified their hiring process, and added staff to monitor the hiring of minorities.
CVS Caremark Corporation	Title VII of the Civil Rights Act of 1964. Guilty of using personality testing to discriminate against employees based on race and national origin	Stopped using the personality tests and developed a training program for managers focusing on diversity and inclusion.
Target	Civil Rights Act of 1964 and the Americans with Disabilities Act	Target paid \$2.8 million. The monetary settlement was distributed amongst the affected candidates.
		Discontinued using those assessments and changed its

applicant tracking systems. Additionally, Target agreed to provide the EEOC with detailed annual reports of the predictive validity studies the company will conduct on its expected use of exempt-level
assessments.

^{*}This act prohibits discrimination from employment based on race, colour, religion, sex, and national origin

5 Psychometric testing

Psychometric testing is a widely used method for determining an individual's abilities, skills, personality traits, attitudes, and other psychological characteristics. Psychometric tests are standardized and objective measurements that use a variety of methods to assess psychological and behavioural characteristics.

Psychometric tests are used in a variety of fields, including education, employment, and clinical psychology. These tests are designed to be objective and provide a fair assessment of a person's abilities, character traits, and potential. They are used to identify strengths and weaknesses, assist in career choice and development, and in clinical diagnosis (Cherry, 2021). There are two broad categories of psychometric tests: cognitive and personality.

Cognitive tests measure mental abilities such as reasoning, memory, perception, and attention. On the other hand, personality tests measure a person's personality traits, attitudes, and behaviours (Meyer, 2020).

Examples of cognitive tests are IQ tests, aptitude tests, and achievement tests.

Examples of personality tests include the Myers-Briggs Type Index (MBTI), the Minnesota Multiphasic Personality Inventory (MMPI), and tests of the Big Five personality traits.

Psychometric testing can be administered in a variety of ways, including paper tests, computer-based tests, and online assessments. The results of these tests are interpreted by trained professionals who are skilled in the assessment of psychological data. It is important to note that psychometric testing is only one aspect of the comprehensive assessment process.

Other factors such as an individual's background, experience, and motivation also play a role in how they perform these tests. Therefore, psychometric testing should always be used in conjunction with other forms of assessment to obtain an overall picture of a person's mental state.

A headhunter is a professional recruitment company focused on identifying and attracting the best talent to clients. These companies often claim to have superior expertise in identifying and vetting suitable candidates for managerial vacancies.

Executive search firms are often hired by companies looking for executive positions such as CEO, CFO, or CMO. These positions are critical to the success of the organization and require candidates with unique skills, experience, and personality traits.

Headhunters work closely with their clients to understand the job requirements and then use their networks and resources to identify and recruit candidates who meet those requirements.

One of the ways that headhunting organizations claim to have superior expertise in identifying and screening suitable candidates is through the use of personality assessments and other psychological/ psychometric tests. These tests help headhunters assess a candidate's personality traits, values, and leadership style and determine his fit for the position and company culture.

Some headhunting organizations have developed their own proprietary personality tests that they believe are more accurate and reliable than standard tests such as the Myers-Briggs Type Index (MBTI) or the Hogan Personality Inventory (HPI).

In addition to personality assessment, executive search organizations could use other candidate evaluation methods, such as in-depth interviews, reference checks, and background checks. These techniques are designed to gain a comprehensive understanding of a candidate's skills, experience, and personality and identify any potential red flags or concerns that may affect their suitability for the role.

5.1 Psychometric Sifting

Psychometric testing can be a useful tool for efficiently selecting the right service employees. Service industries often require employees who are personable, conscientious, and able to handle stressful situations, among other traits.

By using psychometric testing, employers can assess job candidates' personality traits, cognitive abilities, and other relevant characteristics in a standardized and objective manner. (Harms & Credé, 2010; Schmidt & Hunter, 1998).

One way to use psychometric testing for service employee selection is to administer a battery of tests to all job applicants. These tests might include measures of the Big Five personality traits, emotional intelligence, customer service orientation, and situational judgment. Based on the results of these tests, employers can quickly and efficiently narrow down the applicant pool to those who are most likely to be a good fit for the job.

Another approach is to use psychometric testing as a screening tool to identify high-potential candidates for further assessment. For example, employers might administer a brief personality questionnaire or cognitive ability test as part of the initial job application, and then invite only those candidates who score above a certain threshold to complete additional assessments or participate in an interview. (Gottfredson, 1997).

In both cases, psychometric testing can help employers streamline the hiring process by identifying the most promising candidates early on, reducing the time and resources needed to screen a large number of applicants.

However, it is important to use psychometric testing in conjunction with other selection methods, such as interviews and work samples, to ensure a comprehensive and fair evaluation of job candidates.

6 Discussions/ Research Questions

6.1 Research Question 1

Is there evidence showing that companies have higher performance and success rate when having hired employees and forming teams based on/ using personality type tests?

The question of whether using personality type tests leads to higher performance and success rates in companies is a complex one, and based on the author's research, the findings are mixed.

Some studies have found a positive relationship between using personality tests in the hiring process and improved performance and success rates. For example, a meta-analysis by Barrick and Mount (1991) found that using personality tests in selection was associated with higher job performance, especially when the tests were used in combination with other selection methods. Another study by Tett, Jackson, and Rothstein (2006) found that using personality tests to match people to jobs led to better job satisfaction and less turnover.

However, other studies have found less clear evidence of the effectiveness of using personality tests in selection. For example, a meta-analysis by Hough and Oswald (2000) found that personality tests were not significantly better predictors of job performance than general cognitive ability tests. Furthermore, the use of personality tests in selection has also been criticized for potential bias and discrimination against certain groups (e.g., women, minorities) (Ryan & Ployhart, 2000).

In terms of forming teams based on personality types, there is some evidence to suggest that team composition can influence team effectiveness. For example, a study by Belbin (1981) found that teams with a balanced mix of personality types (e.g., Plant, Resource Investigator, Coordinator, etc.) tended to perform better than teams with an imbalance of types. However, it is worth noting that other factors, such as task complexity and team size, can also influence team effectiveness (Hackman, 1987).

6.2 Research Question 2

What is the most accurate personality type test out in the market?

The question of which personality type test is the most accurate has been a subject of debate for years. In this study, the focus was on comparing and contrasting several popular tests available in the market. Below is a summarization of the different personality type tests researched in this thesis:

MBTI: The Myers-Briggs Type Indicator (MBTI) is a widely used personality test, but there is controversy surrounding its validity and reliability. Critics argue that the test lacks scientific support and is based on outdated theories of personality. Proponents argue that it is a useful tool for self-awareness and personal development. Overall, the MBTI is not considered to be the most accurate personality test.

The Big Five Personality Test: The Big Five Personality Test is considered to be the most accurate and widely supported personality test. The Big Five model has been extensively researched and has strong empirical support. The five factors (Openness, Conscientiousness, Extroversion, Agreeableness, and Neuroticism) are consistently found across cultures and populations.

Enneagram: The Enneagram is a personality system that categorizes individuals into one of nine types based on their motivations, fears, and desires. While it has gained popularity in recent years, there is little empirical research to support its validity as a personality test.

Psychometric testing: also known as cognitive or aptitude testing, measures an individual's cognitive abilities, including verbal and numerical reasoning, spatial awareness, and memory. These tests are widely used by organizations for selection and recruitment purposes, as they provide a measure of a candidate's potential job performance.

Overall, the Big Five Personality Test is considered to be the most accurate and widely supported personality test in the market based on the findings in this whole research.

6.3 Research Question 3

Is there any relationship between having a certain type of personality (e.g., leader-type personality) and the employee's results in the organizational chart?

There is ample research that suggests that certain personality traits are associated with effective leadership and success in organizational roles. Here are some key studies and sources that support this idea:

One study on leadership effectiveness found that "personality traits were the most consistent predictors of leadership emergence and effectiveness" (Judge, Bono, Ilies, & Gerhardt, 2002, p. 763). Specifically, the study found that extroversion, conscientiousness, and openness were positively related to leadership effectiveness.

Another study found that "emotional intelligence, extroversion, openness, and conscientiousness are some of the personality traits that contribute to effective leadership" (Carmeli & Josman, 2006, p. 542).

A review of the literature on leadership and personality found that "research suggests that leaders tend to have a number of personality traits that distinguish them from non-leaders" (Kirkpatrick & Locke, 1991, p. 37). The review identified several traits that were consistently associated with effective leadership, including extroversion, emotional stability, and conscientiousness.

A study of the relationship between personality traits and leadership styles found that "transformational leadership was positively related to extroversion, openness, and conscientiousness" (Simic et al., 2017). The study also found that transactional leadership was positively related to conscientiousness.

Some common personality traits that are associated with effective leadership include:

Extroversion: Leaders often need to be social, outgoing, and assertive, so having an extroverted personality can be an asset.

Conscientiousness: Leaders often need to be organized, responsible, and diligent, so having a conscientious personality can be an asset.

Emotional intelligence: Leaders need to be able to manage their own emotions and understand and empathize with others, so having high emotional intelligence can be an asset.

Openness: Leaders need to be creative and flexible, so having an open and curious personality can be an asset.

It does not take a certain personality type to be a leader, Butt says. If you're in the right career for your personality type, you can make as much money as any person, because you will naturally become the best at your position. (Mejia, 2017)

It is important to note that these traits do not necessarily guarantee success as a leader, and individuals with different personality types can still be effective leaders. Additionally, the specific requirements and demands of different leadership roles may vary, so there is no one "perfect" personality type for leadership.

7 Conclusion

In today's highly competitive business world, companies are striving to maximize their profits and gain an edge over their rivals. One of the key factors that determine the success of any organization is its workforce. Therefore, it is not surprising that businesses are investing large amounts of time, effort, and resources in finding the right employees who can contribute to the growth and development of the company.

However, finding the right employees is not an easy task. It requires a significant amount of research and careful consideration, especially for high-level and critical positions. Companies need to ensure that they hire the best candidate who not only possesses the required skills and qualifications but also fits into the organizational culture and values. Hiring the wrong person can result in lower productivity, decreased profitability, and even damage the reputation of the company.

Considering these challenges, organizations are increasingly turning to personality tests to aid in the hiring process. Different types of personality tests, such as Myers-Briggs Type Indicator (MBTI), Big Five, Enneagram, and Psychometric testing, have become popular tools used to assess the suitability of potential employees. These tests are found to be somehow interconnected with each other, and when used simultaneously, can provide a more holistic understanding of a person's personality.

Despite their widespread use, not all individuals and organizations are convinced of the benefits of using personality tests in hiring. Some argue that these tests lack scientific rigor and may even lead to discrimination against certain groups of people. However, proponents of these tests point out that they can be used in a responsible and ethical manner, with a clear understanding of their limitations and biases.

This research shows that using personality tests in the hiring process can be a helpful tool in finding the right employees. However, it is crucial to use these tests in conjunction with other methods and deep research. Personality tests should not be the sole determining factor in the hiring decision, but rather should be used as part of a larger evaluation process that includes interviews, work samples, and references.

In conclusion, finding the right employees is crucial for the success of any business. Personality tests can be a valuable tool in this process when used in the correct way and in combination with other methods. Employers must be aware of the potential limitations and biases of these tests and ensure that they are used ethically and responsibly. Ultimately, investing in the right people is a wise investment that can pay dividends for years to come.

References

Barrick, M. and Mount, M., (1991). The big five personality dimensions and job performance: A Meta-analysis. *Personnel Psychology*, 44(1), pp.1–26. Doi:https://doi.org/10.1111/j.1744-6570.1991.tb00688.x.

Belbin, R. M., (1981). *Management teams: Why they succeed or fail*. Butterworth-Heinemann.

Bioss, (2020). *The Importance of 'Trust' in Teams that Work Remotely*. [online] BIOSS SA. Available at: https://www.bioss.co.za/the-importance-of-trust-in-teams-that-work-remotely/ [Accessed 29 Mar. 2023].

Bland, A.M., (2010). The Enneagram: A Review of the Empirical and Transformational Literature. *The Journal of Humanistic Counseling, Education and Development*, 49(1), pp.16–31. Doi:https://doi.org/10.1002/j.2161-1939.2010.tb00084.x.

Boitnott, J., 2017. *10 Ways You Should Invest Your Company's First Profits*. [online] *Entrepreneur*. Available at: https://www.entrepreneur.com/growing-a-business/10-ways-you-should-invest-your-companys-first-profits/288456 [Accessed 31 Oct. 2022].

Boyle, G. J., 1995. Myers-Briggs Type Indicator (MBTI): Some psychometric limitations. *Australian Psychologist*, 30(2), 71-74.

Boyle, G. J., Stankov, L., & Cattell, R. B. 1995. Measurement and statistical models in the study of personality and intelligence. In D. Saklofske & M. Zeidner (Eds.), *International handbook of personality and intelligence* (pp. 13-35). Plenum Press.

Brooke, C., 2016. Why Companies Need to Invest in Personality Tests. [online] Business 2 Community. Available at: https://www.business2community.com/human-resources/companies-need-invest-personality-tests-01430167 [Accessed 31 Oct. 2022].

Carmeli, A. and Josman, Z.E., (2006). The Relationship Among Emotional Intelligence, Task Performance, and Organizational Citizenship Behaviors. *Human Performance*, 19(4), pp.403–419. doi:https://doi.org/10.1207/s15327043hup1904 5.

Cherry, K., 2021. *An Overview of the Myers-Briggs Type Indicator*. [online] Verywell Mind. Available at: https://www.verywellmind.com/the-myers-briggs-type-indicator-2795583 [Accessed 8 Mar. 2023

Cherry, K., 2021. *How Humanistic Theories Are Used in Psychology*. [online] Verywell Mind. Available at: https://www.verywellmind.com/what-is-psychometric-testing-2795242 [Accessed 8 Mar. 2023].

Riso, D.R., and Hudson, R., (1999). Wisdom of the Enneagram: The Complete Guide to Psychological and Spiritual Growth for the Nine Personality Types. Bantam.

Riso, D.R., and Hudson, R., (2000). *Understanding the enneagram: the practical guide to personality types*. Boston: Houghton Mifflin Company.

Drenth, A.J., (n.d.). *Myers-Briggs Intuition through the Lens of Big Five Openness & Intellect*. [online] Personality Junkie. Available at: https://personalityjunkie.com/11/myers-briggs-intuition-big-five-openness-intellect/ [Accessed 29 Mar. 2023].

Enneagram Institute, (2014). *How the enneagram system works*. [online] Available at: https://www.enneagraminstitute.com/how-the-enneagram-system-works [Accessed 28 Mar. 2023].

Furnham, A., & Crump, J., 2005. Personality traits, types, and disorders: An examination of the relationship between three self-report measures. *Leadership & Organization Development Journal*, 26(3), 206-221.

Glassdoor, 2019. *Culture Over Cash? Glassdoor Multi-Country Survey Finds More Than Half of Employees Prioritize Workplace Culture Over Salary* [online]. Available at: https://about-content.glassdoor.com/en-us/workplace-culture-over-salary/ [Accessed 31 Oct. 2022].

Gottfredson, L. S., 1997. Why g matters: The complexity of everyday life. *Intelligence*, 24(1), 79-132.

Grant, A.M., 2013. Rethinking the Extraverted Sales Ideal. *Psychological Science*, 24(6), pp.1024–1030.

Goldberg, L.R., (1993). The structure of phenotypic personality traits. *American Psychologist*, [online] 48(1), pp.26–34. doi:https://doi.org/10.1037//0003-066x.48.1.26.

Guanzon-Lapeña, Ma.A., Church, A.T., Carlota, A.J., and Katigbak, M.S., (1998). Indigenous Personality Measures. *Journal of Cross-Cultural Psychology*, 29(1), pp.249–270. doi:https://doi.org/10.1177/0022022198291013.

Hackman, J. R., (1987). The design of work teams. In J. Lorsch (Ed.), *Handbook of Organizational Behavior* (pp. 315-342). Prentice Hall.

Harms, P.D. and Credé, M., 2010. Emotional Intelligence and Transformational and Transactional Leadership: A Meta-Analysis. *Journal of Leadership & Organizational Studies*, 17(1), pp.5–17.

Hogan, R., 1989. Personality and personality measurement. *Annual Review of Psychology*, 40, 477-502.

Hook, J.N., Hall, T.W., Davis, D.E., Van Tongeren, D.R. and Conner, M., (2020). The Enneagram: A systematic review of the literature and directions for future research. *Journal of Clinical Psychology*, 77(4), pp.865–883. doi:https://doi.org/10.1002/jclp.23097.

Hough, L.M. and Oswald, F.L., (2008). Personality Testing and Industrial—Organizational Psychology: Reflections, Progress, and Prospects. *Industrial and*

Organizational Psychology, 1(3), pp.272–290. doi:https://doi.org/10.1111/j.1754-9434.2008.00048.x.

Indeed, 2020. *Personality Type Test: Definition and Examples* / [online] Indeed Career Guide. Available at: https://www.indeed.com/career-advice/finding-a-job/personality-type-test. [Accessed 10 Mar. 2023]

John, O. P., & Srivastava, S., (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality*: Theory and research (Vol. 2, pp. 102-138). Guilford Press.

Judge, T.A., Bono, J.E., Ilies, R. and Gerhardt, M.W., (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, 87(4), pp.765–780. Doi:https://doi.org/10.1037/0021-9010.87.4.765.

Kakovkina, V., 2020. Which MBTI Types Make the Best Entrepreneurs and What Can We Learn from Them? [online] NetHunt Blog | Sales, Marketing, and CRM. Available at: https://nethunt.com/blog/mbti-personalities/> [Accessed 10 Mar. 2023].

Kirkpatick, S.A. and Locke, E.A., (1991). Leadership: do traits matter? *Academy of Management Perspectives*, 5(2), pp.48–60.

Lan, J., Wong, C.-S., and Zeng, G., 2021. Personality profiles for hospitality employees: Impact on job performance and satisfaction. *International Journal of Hospitality Management*, 98, p.103018.

Leikvoll, V., (2022). 80% of Fortune 500 Companies Use Personality Tests, But Are They Ethical? [online] Leaders.com. Available at: https://leaders.com/articles/business/personality-tests/ [Accessed 28 Oct. 2022].

Maitri, S., (2000). The Spiritual Dimension of the Enneagram. Penguin.

McCrae, R. R., & Costa, P. T., 1999. A five-factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 139-153). Guilford Press.

McCrae, R. R., & Costa, P. T., Jr. (2008). The five-factor theory of personality. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 159–181). The Guilford Press.

Mejia, Z., (2017). If you have this personality type, chances are you're making more money than your co-workers. [online] CNBC. Available at: https://www.cnbc.com/2017/06/12/workers-with-this-myers-briggs-personality-type-earns-the-highest-annual-income.html [Accessed 29 Mar. 2023].

Meyer, G. J., 2020. Psychometric testing. In E. M. Anderman & L. H. Anderman (Eds.), *Psychology of Learning and Motivation*: *Advances in Research and Theory* (Vol. 72, pp. 261-284). Academic Press.

Michael, J., 2003. Using the Myers-Briggs Type Indicator as a Tool for Leadership Development? Apply With Caution. *Journal of Leadership & Organizational Studies*, [online] 10(1), pp.68–81. doi:https://doi.org/10.1177/107179190301000106.

Myers-Briggs Company, (n.d.). *All About the MBTI Assessment | The Myers-Briggs Company.* [online] ap.themyersbriggs.com. Available at: https://ap.themyersbriggs.com/themyersbriggs-all-about-the-mbti-assessment.aspx [Accessed 29 Mar. 2023].

Myers-Briggs Company, (n.d.). *Team Building Tools and Insights | MBTIonline*. [online] www.mbtionline.com. Available at: https://www.mbtionline.com/en-US/Products/For-your-team [Accessed 10 Nov. 2022].

Myers-Briggs Company, (n.d.). Consulting & Assessments / The Myers-Briggs Company. [online] ap.themyersbriggs.com. Available at: https://ap.themyersbriggs.com/ [Accessed 29 Mar. 2023].

Personality Junkie., (n.d.). *Myers-Briggs / MBTI in the Age of the Big Five*. [online] <Available at: https://personalityjunkie.com/04/myers-briggs-mbti-vs-big-five/> [Accessed 10 Mar. 2023].

Pittenger, D. J., 2005. Cautionary comments regarding the Myers-Briggs Type Indicator. *Consulting Psychology Journal: Practice and Research*, 57(3), 210-221.

Powers, K., 2019. *Personality, Attitudes, and Behaviors*. pressbooks.pub. [online] Available at:

 [Accessed 10 Dec. 2022].">10 Dec. 2022].

Renieri, A., (2021). *Texas A&M Career Center - The Enneagram and Your Career.* [online] Tamu.edu. Available at: https://careercenter.tamu.edu/Blog/May-2021/The-Enneagram-and-Your-Career [Accessed 30 Mar. 2023].

Roberts, B., Hogan, R. and American Psychological Association, (2002). *Personality psychology in the workplace*. Washington, Dc: American Psychological Association.

Ryan, A.M. and Ployhart, R.E., (2000). Applicants' Perceptions of Selection Procedures and Decisions: A Critical Review and Agenda for the Future. *Journal of Management*, 26(3), pp.565–606. doi:https://doi.org/10.1177/014920630002600308.

Sackett, P.R. and Lievens, F., (2008). Personnel Selection. *Annual Review of Psychology*, 59(1), pp.419–450. doi:https://doi.org/10.1146/annurev.psych.59.103006.093716.

Simic, J., Ristic, M.R., Milosevic, T.K. and Ristic, D., (2017). The Relationship Between Personality Traits and Managers` Leadership Styles. *European Journal of Social Sciences Education and Research*, [online] 11(2), p.194. doi:https://doi.org/10.26417/ejser.v11i2.p194-199.

Schmidt, F. L., & Hunter, J. E., 1998. The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, 124(2), 262–274.

Shaules, L., 2016. *MBTI: Useful Hiring Tool or Corporate Horoscope?* [online] Enterprise Content Management (ECM) | Laserfiche. Available at: https://www.laserfiche.com/ecmblog/mbti-useful-hiring-tool-or-corporate-horoscope/ [Accessed 31 Oct. 2022].

Stiefvater, S., 2022. From Myers-Briggs to the Big 5, Here Are 4 Models Used to Determine Personality Type. [online] PureWow. Available at: https://www.purewow.com/wellness/types-of-personalities [Accessed 17 Nov. 2022].

Tett, R.P., Jackson, D.N. And Rothstein, M., (2006). Personality Measures As Predictors Of Job Performance: A Meta-Analytic Review. *Personnel Psychology*, 44(4), pp.703–742. doi:https://doi.org/10.1111/j.1744-6570.1991.tb00696.x.

Thomas, 2021. What Are the Big 5 Personality Traits? [online] Thomas International. Available at: https://www.thomas.co/resources/type/hr-guides/what-are-big-5-personality-traits [Accessed 15 Nov. 2022].

Thomas, 2022. *The What of Behaviour and the Why of Personality*. [online] Thomas International. Available at: https://www.thomas.co/resources/type/hr-blog/what-behaviour-and-why-

personality#:~:text=Essentially%2C%20personality%20is%20referred%20to> [Accessed 31 Nov. 2022].

Traitlab, 2022. *MBTI and the Big Five Personality Traits*. [online] Available at: https://www.traitlab.com/blog/mbti-big-five-personality-traits [Accessed 31 Oct. 2022].

Winchell, B., 2020. *An Intro to MBTI and How It Has Improved My Life*. [online] Medium. Available at: https://bryanwinchell-japan.medium.com/an-intro-to-mbti-and-how-it-has-improved-my-life-fe4d0e66174c [Accessed 31 Oct. 2022].

Continuation of Graphs

