I'm not a robot

All Pokémon creatures and their moves are assigned certain types. Each type has several strengths and weaknesses in both attack and defense. In battle, you should use Pokémon and moves that have a type advantage over your opponent; doing so will cause much more damage than normal. A single-type advantage (for instance a Water attack against a Ground-type Pokémon) will net you double normal damage. The advantages also stack up, so a double-type advantage (for instance a Water attack against a Ground/Rock-type Pokémon) will net you quadruple damage. In both these cases you will see the message It's super effective! in-game after the attack. Conversely, a single- and double-type disadvantage will afflict half and a quarter normal damage respectively. Here you will see the message It's not very effective... in-game. Another advantage you can gain is Same Type Attack Bonus (STAB). As the name implies, this increases the power of the move if the attacking Pokémon has the same type as the move used (for example a Fire-type Pokémon using a Fire-type move). In this case the damage is 1.5 times normal. Again this is added to any other advantages, so a Water-type Pokémon using a Water-type move against a Ground/Rock-type Pokémon will bag you six times (2×2×1.5) normal damage! The full type chart here displays the strengths and weaknesses of each type. Look down the left hand side for the attacking type, then move across to see how effective it is against each Pokémon type. Note: this chart is for games from 2013 onwards - Pokémon X/Y, OR/AS, Pokémon GO and Sun/Moon. Type charts for older games have some minor differences - see below. Chart key 0 No effect (0%) ½ Not very effective (50%) Normal (100%) 2 Super-effective (200%) Downloads You can download the type chart as an image to print out and keep handy as you are playing and battling! Gen 6+ type chart image The majority of the type chart has remained the same over the years, but there have been a few changes. In Generation 2, Dark and Steel types were added, while in Generation 6 (Pokémon X and Pokémon Y) the Fairy type was added. Below are the differences compared to the current type chart. The charts can be seen on the Old Type Charts page. Generation 2-5 There was no Fairy type. Ghost and Dark type moves were not very effective against Steel type Pokémon. From Generation 6 they do neutral damage. Generation 1 There were no Dark or Steel types. Ghost-type moves had no effect on Psychic Pokémon. (Note that this only affected Lick as Confuse Ray and Night Shade affected all Pokémon equally.) This was supposedly a mistake in the programming: several game guides stated that Ghost was super-effective on Psychic, and an in-game trainer at Saffron City says that Psychic Pokémon fear only ghosts and bugs! It was corrected in Generation 2 when Ghost became super-effective against Psychic. Bug was super-effective on Poison and vice-versa. This was changed so that Bug is now not very effective against Poison, and Poison now does regular damage against Bug. Ice type moves were neutral against Fire type Pokémon. Now they are not very effective. Products Premium Profile Team Assessments Reports for Professionals Testimonials Resources Personality Test Personality Types Articles Our Framework Country Profiles Help Contact Us FAQ Your Orders Change Language Our Other Creations NPQE® MindTrackers® Leadership by 16Personalities INFJ by 16Personalities The Myers-Briggs Type Indicator (MBTI) is a personality assessment tool based on Carl Jung's theory of psychological types. It categorizes individuals into 16 personality types based on four dimensions: introversion vs. extraversion, sensing vs. intuition, thinking vs. feeling, and judging vs. perceiving. The MBTI helps people understand their preferences in how they perceive the world and make decisions. The MBTI framework identifies four key dimensions of personality, each represented as a pair of opposite preferences: Energy Focus: Extraversion (E) vs. Introversion (I) Where individuals direct their energy and attention (external world vs. internal thoughts) Information Processing: Sensing (S) vs. Intuition (N) How individuals gather and process information (concrete, observable facts vs. patterns and possibilities) Decision Making: Thinking (T) vs. Feeling (F) How individuals make judgments and decisions (logical analysis vs. values and people-centered considerations) Lifestyle Approach: Judging (J) vs. Perceiving (P) How individuals approach structure and closure (preferring organization and resolution vs. flexibility and openness) The MBTI propose that four different cognitive functions determine one's personality: extraversion vs. introversion, sensing vs. intuition, thinking vs. feeling, and judging vs. perceiving. These four preference pairs combine to create 16 distinct personality types. Each individual has a preference from each pair, resulting in a unique four-letter code. For example: ISTJ: Introverted, Sensing, Thinking, Judging ENFP: Extraverted, Intuitive, Feeling, Perceiving The Myers-Briggs Type Indicator (MBTI) was developed in 1942 by Isabel Briggs Myers and her mother Katharine Cook Briggs, based on Carl Jung's theory of psychological types. The MBTI highlights that all personality types are equally valuable, with each having its own strengths and potential blind spots. It is widely used for: Self-understanding and personal development Improving communication and relationships Team building in organizational settings Career guidance and development Understanding different approaches to problem-solving and decision-making The MBTI provides a framework for understanding how people perceive the world and make decisions, while acknowledging that personality exists on a spectrum rather than in rigid categories. The Four Dichotomies MBTI assessment assigns individuals into one of four categories based on how they perceive the world and make decisions. The four categories are: introversion or extraversion, sensing or intuition, thinking or feeling, and judging or perceiving. Each person is said to have one preferred quality from each category, producing 16 unique personality types. These are opposite ways to direct and receive energy. Do you prefer to focus on the outer world (E) or your inner world (I)? This dichotomy describes how people respond and interact with others and orient themselves within the world around them. Extraverts tend to be action-oriented – focusing on other people and things, feeling energized by the presence of others, and emitting energy outwards. Introverts are more thought-oriented. They enjoy deep and meaningful social interactions and feel recharged after spending time alone. After attending a large social gathering, do you usually feel: A. Energized and ready for more interaction B. Drained and in need of alone time When faced with a problem, do you prefer to: A. Talk it out with others B. Reflect on it alone Which word resonates with you more: A. Outgoing B. Reserved Scoring: If you answered mostly A, you may lean towards Extraversion (E). If you answered mostly B, you may lean towards Introversion (I). Sensing (S) vs. Intuition (N) Do you prefer to focus on the basic information you take in (S), or do you prefer to interpret and add meaning (N)? This dichotomy describes how people gather and perceive information. Sensing-dominant people tend to prefer to focus on facts and details and perceive the world around them through their five senses. Intuition-dominant types are more abstract in their thinking, focusing on patterns, impressions, and future possibilities. Test When learning something new, do you prefer: A. Step-by-step instructions B. A broad overview of concepts In decision-making, do you rely more on: A. Past experiences and concrete facts B. Potential future outcomes and abstract theories Which word appeals to you more: A. Practical B. Imaginative Scoring: If you answered mostly A, you may lean towards Sensing (S). If you answered mostly B, you may lean towards Intuition (N). When making decisions, do you prefer to first look at logic and consistency (T) or first look at the people and special circumstances (F)? This dichotomy describes how people make decisions and use judgments. Thinking types use logic and facts to judge the world, while feeling types tend to consider emotions. When making a difficult decision, do you prioritize: A. Logical analysis and objective facts B. The impact on people involved and personal values In a debate, are you more concerned with: A. Winning the argument with sound logic B. Maintaining harmony and considering all perspectives Which word do you identify with more: A. Objective B. Empathetic Scoring: If you answered mostly A, you may lean towards Thinking (T). If you answered mostly B, you may lean towards Feeling (F). In dealing with the outside world, do you prefer to get things decided (J), or do you prefer to stay open to new information and options (P)? This dichotomy describes how people tend to operate in the outside world and reveals the specific attitudes of the functions. Those judging dominant tend to be more methodical and results-oriented and prefer structure and decision-making. Perceiving dominant individuals are more adaptable and flexible and tend to be good at multitasking. Do you prefer to: A. Have a detailed plan for your day B. Go with the flow and adapt as needed When working on a project, do you like to: A. Finish one task completely before moving to the next B. Juggle multiple tasks and switch between them Which word describes you better: A. Structured B. Flexible Scoring: If you answered mostly A, you may lean towards Judging (J). If you answered mostly B, you may lean towards Perceiving (P). The dominant function is the primary aspect of personality, while the auxiliary and tertiary functions play supportive roles. The 16 Personality Types ISTJ – The Logistician These individuals tend to be serious, matter-of-fact, and reserved. They appreciate order and organization and pay a great deal of attention to detail. They like to plan things out in advance and place an emphasis on tradition and law. They are responsible and realistic and can be described as dependable and trustworthy. Strengths Detail-oriented and organized: Skilled at managing projects, schedules, and logical processes. Dependable and thorough: Reliable in following through on commitments. Upholders of tradition: Often serve as the backbone of teams or families by preserving proven methods. Potential Challenges Difficulty adapting to change: May struggle when situations require quick, flexible thinking. Overly strict standards: Can be rigid in applying rules or judging others who don't meet exact expectations. Reserved communication style: May not always express emotions openly. ISFJ – The Defender These individuals are friendly, responsible, and reserved. ISFJs are service and work-oriented, committing to meeting their obligations and duties. They are loyal, considerate, and place a lot of focus on the care of others. They are non-confrontational and value an orderly and harmonious environment. Strengths Caring and supportive: Prioritize the well-being of others and excel at building harmonious relationships. Responsible and dependable: Typically fulfill obligations meticulously. Observant: Notice small details about people's needs and preferences. Potential Challenges Difficulty saying 'no': May overcommit to helping others and neglect personal boundaries or needs. Sensitivity to criticism: Might take feedback personally, leading to stress or self-doubt. Resistance to new methods: Prefers established procedures, which can limit innovation. INFJ – The Advocate People with this personality type are serious, logical and hardworking. They are also compassionate, conscientious, and reserved. INFJs value close, deep connections and are sensitive to the needs of others, but also need time and space alone to recharge. Strengths Empathetic and insightful: Skilled at understanding others' emotions and motivations. Idealistic yet goal-driven: Combine vision with a determination to make a meaningful impact. Deep connectors: Value authenticity in relationships, fostering a sense of trust and loyalty. Potential Challenges Prone to burnout: High standards and empathic listening can lead to emotional exhaustion. Reluctant to open up: May keep personal issues internal, complicating intimate communication. Overly perfectionistic: Tendency to overanalyze decisions or wait until conditions are "just right." INTJ The Architect These people are highly independent, self-confident and prefer to work alone. They are analytical, creative, logical, and driven. INTJs place an emphasis on logic and fact rather than emotion and can be viewed as perfectionist. They tend to have high expectations of competence and performance for themselves and others. Strengths Strategic thinking: Skilled at creating long-term plans and seeing complex patterns. Self-motivated: Driven to achieve personal objectives without relying on external validation. Innovative problem-solvers: Enjoy intellectual challenges and propose out-of-the-box solutions. Potential Challenges High standards for others: Can appear critical or impatient with those who don't meet their criteria. Difficulty expressing emotions: Risk coming across as distant or unempathetic. Overanalyzing: May get stuck in planning phases without moving to swift action. ISTP – The Crafter People with this personality type are fearless and independent. They love adventure, new experiences, and risk-taking. ISTPs tend to be quiet observers and are not well attuned to the emotional states of others, sometimes coming across as insensitive or stoic. They are results- oriented, acting quickly to find workable solutions and understand the underlying cause of practical problems. Strengths Resourceful and adaptable: React promptly and effectively to immediate challenges. Hands-on problem-solving: Excel at troubleshooting mechanical or technical issues. Calm under pressure: Generally composed in crisis situations. Potential Challenges Difficulty with emotional nuances: Might overlook others' feelings, creating relationship tension. May lose interest quickly: Can jump from one project or idea to another if not stimulated. Reserved communication style: Unlikely to share personal thoughts unless absolutely necessary. ISFP – The Artist These individuals are quiet, friendly, easy going, and sensitive. They have a strong need for personal space and time alone to recharge. ISFPs value deep connection and prefer to spend time with smaller groups of close friends and family. They are highly considerate and accepting, avoiding confrontation and committed to their values and to people who are important to them. Strengths Empathetic and sensitive: Attuned to others' emotional well-being. Creative and artistic: Often express themselves through art, music, or other hands-on mediums. Adaptable and open-minded: Willing to embrace new ideas in a supportive environment. Potential Challenges Conflict avoidance: May sidestep necessary confrontations, potentially causing unresolved issues. Self-critical: Feelings of inadequacy can arise if their work or ideas aren't well-received. Difficulty sharing inner thoughts: Can struggle to articulate deeper goals or concerns. INFP – The Mediator These people are creative, idealistic, caring, and loyal. They have high values and morals, and are constantly seeking out ways to understand people and to best serve humanity. INFPs are family and home-oriented and prefer to interact with a select group of close friends. Strengths Deeply empathetic: Motivated by a desire to help others and create harmony. Imaginative and reflective: Rich inner world that sparks creativity and unique perspectives. Value-driven: Often hold strong personal convictions and moral principles. Potential Challenges Prone to daydreaming: May get lost in ideas, making it difficult to follow through on tasks. Conflict aversion: Tendency to avoid disagreements, which can stifle open communication. Overly idealistic: Disappointment may arise when reality doesn't match their lofty expectations. INTP – The Thinker People with this personality type are described as quiet, contained, and analytical. They are highly focused on how things work and on solving problems, and tend to be good at logic and math. INTPs are more interested in ideas and theoretical concepts than in social interaction. They are loyal and affectionate to their closest friends and family, but tend to be difficult to get to know. Strengths Logical problem-solver: Skilled at dissecting problems and formulating rational solutions. Independent thinker: Enjoys exploring theoretical concepts and innovative ideas. Intellectually curious: Constantly questions assumptions and seeks deeper explanations. Potential Challenges Communication gaps: May struggle to communicate insights in a relatable way, leading to misunderstandings. Aloof or distant: Prefers solitary analysis, sometimes neglecting social bonds. Procrastination: Overthinking can delay action and completion of tasks. ESTP – The Entrepreneur These individuals are action-oriented, taking pragmatic approaches to obtain results and solve problems quickly. They are often sophisticated, charming, and spontaneous. ESTPs are outgoing and energetic, and enjoy spending time with a wide circle of friends and acquaintances. They focus on the here and now and prefer the practical over the abstract. Strengths Highly energetic: Thrive on excitement, competition, and new experiences. Pragmatic and adaptable: Skilled at taking quick, decisive action. Strong social presence: Communicate effectively in group settings and can be quite persuasive. Potential Challenges Impatience with theory: May dismiss detailed or long-term planning in favor of immediate results. Risk-taking behavior: Love for adventure can lead to impulsive decisions. Inconsistent follow-through: Can lose motivation once the initial thrill fades. ESFP – The Entertainer These people tend to be outgoing, friendly, and impulsive, seizing energy from other people. They love to be the center of attention and enjoy working with others in new environments. ESFPs can be described as easy going, fun, and optimistic. They are spontaneous and focused on the present moment, and enjoy learning through hands-on experiences with other people. Strengths Enthusiastic and sociable: Infuses groups with energy and excitement. Spontaneous and flexible: Comfortable adapting to changing circumstances. Observant of immediate surroundings: Enjoys experiences that engage the senses. Potential Challenges Short attention span: Long-term commitments or repetitive tasks can be challenging. Impulsivity: May act before thinking through potential consequences. Avoidance of conflict: Might gloss over issues in pursuit of positivity and fun. ENFP – The Champion These individuals are enthusiastic, creative, energetic, and highly imaginative. ENFPs have excellent people and communication skills and are good at giving others appreciation and support. They do, however, seek approval from others. They value emotions and expression. They dislike routine and might struggle with disorganization and procrastination. Strengths Inspiring and encouraging: Able to motivate and energize others with ease. Original thinking: Sees possibilities and connections that others might miss. Strong interpersonal skills: Skilled at forging quick rapport and building networks. Potential Challenges Scattered focus: May have difficulty finishing projects due to chasing new ideas. Oversensitivity to criticism: Seeking approval can lead to insecurity or defensiveness. Struggle with structure: Routine tasks or strict deadlines may feel stifling. ENTP – The Debater People with this personality type can be described as innovative, outspoken, and lively. ENTPs are idea-oriented and are more focused on the future rather than on the present moment. They enjoy interacting with a wide variety of people and love to engage with others in debates. They tend to be easy to get along with, but also can be argumentative at times. They are great conversationalists and make good entrepreneurs. Strengths Inventive and quick-witted: Thrive on brainstorming and conceptual exploration. Articulate debater: Expresses arguments confidently and can challenge assumptions. Adaptable: Enjoys novel situations and takes pleasure in solving complex problems. Potential Challenges Argumentative tendencies: May engage in debates for fun, alienating more harmony-oriented individuals. Restless mind: Easily bored if not stimulated by fresh challenges or perspectives. Tendency to overanalyze: Might get trapped in endless idea generation without concrete follow-through. ESTJ – The Director These people are responsible, practical, and organized. They are assertive and like to take charge, focused on getting results in the most efficient way possible. ESTJs have clear standards and place a high value on tradition and rules. They can be seen as rigid, stubborn, or bossy as they are forceful in implementing their plans. However, they tend to excel at putting plans into action because they are hardworking, self-confident, and dependable. Strengths Organized and methodical: Good at setting structures, processes, and timelines. Goal-oriented: Motivated by measurable accomplishments and tangible outcomes. Leadership readiness: Natural inclination toward delegating tasks and coordinating efforts. Potential Challenges Overbearing management style: Strong push for efficiency can feel controlling to others. Resistance to new methods: Can be hesitant about unconventional approaches if they feel untested. Inflexibility: Might dismiss the emotional aspects of a situation if it conflicts with established procedures. ESFJ – The Caregiver These individuals are warmhearted, conscientious, and harmonious. They wear their hearts on their sleeves and tend to see the best in others. ESFJs enjoy helping others and providing the care that people need, but want to be appreciated and noticed for their contributions. They are careful observers of others and excel in situations involving personal contact and community. Strengths Empathetic and sociable: Skilled at creating an inclusive, friendly atmosphere. Highly responsible: Eager to fulfill duties and meet expectations. Community-focused: Finds fulfillment in group settings and service-oriented work. Potential Challenges Craving approval: May become stressed or hurt if contributions go unrecognized. Reluctance to address conflict: Tendency to smooth over issues rather than solve root problems. Resistance to change: Often prefers familiar traditions, which can limit adaptability. ENFJ – Protagonist These people are responsible, warm, and loyal. They are highly attuned to the emotions of others and capable of forging friendships with essentially anybody. ENFJs have a desire to help others fulfill their potential, and they derive personal satisfaction from helping others. They tend to make good leaders as they are highly capable of facilitating agreement among diverse groups of people. Strengths Inspirational leadership: Motivates and unites people around shared visions. Empathetic: Highly sensitive to group morale and emotional undercurrents. Encouraging and supportive: Genuinely invests in others' growth and development. Potential Challenges Overcommitting: May stretch themselves too thin trying to help everyone. Struggle with self-care: Tendency to focus on others' well-being rather than their own. Conflict avoidance: Discomfort with disagreement can hinder honest feedback. ENTJ – The Commander These individuals like to take charge. They value organization and structure and appreciate long-term planning and goal setting. ENTJs have strong people skills and enjoy interacting with others, but they are not necessarily attuned to their own emotions or the emotions of others. They have strong leadership skills and tend to make good executives, captains, and administrators. Strengths Strategic and driven: Skilled at creating roadmaps for achieving ambitious objectives. Confident leadership: Capable of rallying teams and delegating tasks effectively. Goal-focused: Prioritizes efficiency and results, making them effective in high-pressure environments. Potential Challenges Overly dominant: May intimidate or overshadow more reserved team members. Impatient with inefficiency: High standards can strain relationships if not balanced with empathy. Limited emotional insight: Focus on logic and outcomes can mean overlooking personal needs- both their own and others'. Benefits of MBTI Below are some of the strengths and possible benefits of the MBTI: Enhanced self-awareness: The MBTI can be useful for individuals to understand their own preferences and how they might approach different situations. Framework for understanding others: The MBTI can help people understand and appreciate differences in others, potentially improving interpersonal relationships and team dynamics. Stress Management: Understanding one's MBTI type may provide insights into personal stressors and effective coping mechanisms. Learning Preferences: MBTI may indicate preferred learning styles, helping educators tailor their teaching methods and students optimize their study habits. Personal Growth: MBTI can highlight areas for potential personal development by encouraging exploration of less-preferred functions. Criticisms of MBTI The MBTI has been criticized as a pseudoscience and does not tend to be widely endorsed by psychologists or other researchers in the field. Some of these critiques include: Categorization vs. Continuous Traits: The MBTI forces individuals into dichotomous categories (e.g., introvert or extrovert) when personality traits are more likely to be continuously distributed. This can lead to oversimplification and misrepresentation of an individual's personality. Low Test-Retest Reliability: Studies have shown that the MBTI has relatively low test-retest reliability, meaning individuals can get different results when taking the test multiple times. This inconsistency raises concerns about the stability and accuracy of the MBTI in identifying a person's "true type". Lack of Predictive Validity: Despite its popularity in workplace settings, the MBTI has shown limited predictive validity for job performance or other important outcomes. This lack of empirical support undermines its effectiveness as a selection or development tool. Conceptual Overlap with the Big Five: Research suggests that the MBTI dimensions overlap significantly with the more robust and widely accepted Big Five personality traits. This overlap calls into question the unique contribution of the MBTI. Not based on scientific framework: The scales show relatively weak validity as the psychological types created by Carl Jung were not based on any controlled studies and many of the studies that endorse MBTI are methodologically weak or unscientific. Vague language: The terminology of the MBTI is incomprehensive and vague, allowing any kind of behavior to fit any personality type. Confirmation Bias: Once labeled as a certain type, individuals may consciously or unconsciously interpret new information in ways that confirm the type description. This self-fulfilling prophecy can reinforce belief in the assessment's accuracy, even if the content is partly generic or context-dependent. Barnum Effect: Also known as the Forer Effect, this bias occurs when people find generic statements about personality to be highly accurate for them personally. For example, an individual might read an MBTI description and feel it "perfectly" describes them, even though many statements could apply to a broad range of people. MBTI vs. Other Personality Models Personality assessments come in many forms, each with a unique theoretical foundation and method of measurement. Understanding how MBTI compares to other widely recognized models can help users decide when and why MBTI might be useful, or when another approach may be more appropriate. Big Five (Five-Factor Model) Scientific Origin: The Big Five (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism) emerged from factor-analytic research, meaning it was derived by statistically identifying clusters of common behaviors and traits across populations. MBTI, by contrast, has Jungian roots and was developed without broad-scale empirical factor analysis at its inception. Continuous vs. Dichotomous: The Big Five treats each personality trait as a spectrum – you can be moderately extraverted or extremely introverted, for example. MBTI categorizes preferences as either E or I, T or F, etc., creating dichotomous splits rather than scales. Critics argue this can lose nuance since many people fall somewhere in between. Predictive Validity: Research consistently shows the Big Five is better at predicting real-world outcomes (e.g., job performance, life satisfaction). MBTI's predictive power is comparatively weaker, making it more suitable for self-reflection than for selection or diagnostic purposes. HEXACO Model Six Factors: The HEXACO model expands on the Big Five by adding Honesty-Humility as a sixth trait, reflecting recent research into moral character and humility as key aspects of personality. MBTI doesn't address such a factor directly, focusing more on cognitive-attitudinal dichotomies. Empirical Foundation: Like the Big Five, the HEXACO framework is supported by factor-analytic studies across multiple cultures. It measures individuals along a continuum of six broad dimensions rather than assigning categorical "types." Strengths and Limitations of MBTI Accessibility & Popularity: MBTI remains widely used for team-building and personal development in organizations, partly because its four-letter type structure is easy to grasp. In contrast, the Big Five and HEXACO can feel more abstract, as they rely on numeric scales and statistical constructs that may be less intuitive without prior knowledge. User Engagement: MBTI's simple, descriptive profiles can make people feel instantly identified with a group, which can boost interest and conversation. Critics note this appeal can also reflect cognitive biases—such as the Barnum effect—where generic statements feel individually tailored. Practical Takeaways: For personal reflection, MBTI can still provide value: it highlights potential strengths and challenges, spurring self-awareness. However, scientific applications (e.g., formal research, rigorous hiring or diagnostic processes) typically rely on the Big Five or HEXACO due to stronger reliability and validity data. Choosing the Right Tool Purpose Matters: If your goal is to gain quick insight into how you or a team prefer to think, communicate, and organize tasks, MBTI's straightforward style may suffice. If you need a research-backed measure with strong predictive power—such as studying the link between personality and job performance—a Big Five or HEXACO assessment is often recommended by psychologists. Take the MBTI (Paper Version) Practical Applications of MBTI While the MBTI shouldn't be treated as all-encompassing or fixed, understanding your personality preferences can help inform decisions about career, relationships, and team dynamics. 1. Career Choices and Personal Growth Finding a Fulfilling Career Path:Each personality type has natural tendencies that can lend themselves to certain environments or job roles. For instance, Intuitive (N) types often gravitate toward roles requiring big-picture thinking (e.g., strategist, designer), while Sensing (S) types might prefer positions focused on concrete details (e.g., accountant, technician). Similarly, Thinking (T) types may enjoy problem-solving, technical, or analytical roles, whereas Feeling (F) types might be drawn to positions that emphasize empathy (e.g., counseling, social work). Embracing Strengths, Improving Weaknesses:Analyzing your MBTI preferences can help you identify your natural strengths and see how these translate into marketable skills. For example, an ENFJ might be particularly strong in leadership and interpersonal communication, making them ideal for roles that require team-building or mentorship. At the same time, understanding the associated weaknesses (e.g., difficulty making quick, objective decisions under pressure) offers an opportunity to develop strategies for growth. Aligning Personal Values with Work:Since some MBTI types are strongly values-driven (like the NF combination), reflecting on how personal ideals match a potential career environment is crucial. You might look for mission-oriented organizations, nonprofits, or startups that align with your desire to create meaningful change. 2. Improving Relationships and Communication Understanding Communication Styles:Preferences such as Extraversion vs. Introversion can reveal why some people need alone time while others thrive in social settings. By acknowledging these differences, couples, friends, or colleagues can avoid misunderstandings – for instance, recognizing that an Introvert who needs solitude after a busy day isn't being aloof but simply recharging. Enhancing Empathy and Conflict Resolution:Identifying whether you (or someone else) is predominantly a Thinking (T) or Feeling (F) type can shed light on why certain arguments flare up. If one person uses logic to approach disagreements and the other values emotional harmony, consciously balancing both perspectives can lead to healthier resolutions. Fostering Deeper Connections:People often discover new ways to connect once they realize their partner or friend processes information (S/N) or makes decisions (T/F) differently. This awareness helps reduce friction, encourage open dialogue, and celebrate diverse viewpoints within personal relationships. 3. Team Dynamics and Collaboration Allocating Tasks Based on Strengths:Work teams often benefit from a mix of MBTI types, where each person's unique approach complements the rest of the group. For instance, Perceiving (P) types may excel at brainstorming and adapting on the fly, while Judging (J) types keep projects on track with organized plans and timelines. Balancing Group Energy:Recognizing Introverts (I) in a team might require giving them time and space to process ideas internally before contributing. Conversely, Extraverts (E) often thrive on group discussion and immediate feedback. Making space for both styles can improve group morale and reduce conflict. Minimizing Miscommunication:Misunderstandings often arise when team members overlook different communication preferences. By being proactive—encouraging Intuitives (N) to share their big-picture visions while ensuring Sensors (S) also have opportunities to raise practical concerns—teams can harness each person's perspective effectively. 4. Tips for Maximizing the Value of MBTI Keep an Open Mind: Your MBTI type doesn't define you completely; it's a set of tendencies and preferences. Remain open to personal growth that may challenge your usual habits. Seek Complementary Partners: In study groups, personal relationships, or work teams, look for those whose strengths are your areas of growth (and vice versa). Opposite types can learn much from each other. Use the Tool Responsibly: While it's tempting to make major life decisions based solely on MBTI, it's best used as one piece of a broader self-assessment—paired with reflection, feedback from peers, and real-world experiences. Revisit Your Results: Preferences can shift over time, or certain situations may prompt growth in less-preferred functions. Taking the assessment again later can help you notice changes. Sources Francis, L. J., & Village, A. (2022). The Francis Psychological Type Scales (FPTS): Factor structure, internal consistency reliability, and concurrent validity with the MBTI. Mental Health, Religion & Culture, 25(9), 931-951. Furnham, A. (2022). 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Retrieved from Saul McLeod, PhD BSc (Hons) Psychology, MRes, PhD, University of Manchester Editor-in-Chief for Simply Psychology Saul McLeod, PhD., is a qualified psychology teacher with over 18 years of experience in further and higher education. He has been published in peer-reviewed journals, including the Journal of Clinical Psychology. Olivia Guy-Evans, MSc BSc (Hons) Psychology, MSc Psychology of Education Associate Editor for Simply Psychology Olivia Guy-Evans is a writer and associate editor for Simply Psychology. She has previously worked in healthcare and educational sectors. Julia Simkus Editor at Simply Psychology BA (Hons) Psychology, Princeton University Julia Simkus is a graduate of Princeton University with a Bachelor of Arts in Psychology. She is currently studying for a Master's Degree in Counseling for Mental Health and Wellness in September 2023. Julia's research has been published in peer reviewed journals. Operating Systems can be categorized according to different criteria like whether an operating system is for mobile devices (examples Android and iOS) or desktop (examples Windows and Linux). Here, we are going to classify based on functionalities an operating system provides.1. Batch Operating SystemThis type of operating system does not interact with the computer directly. There is an operator which takes similar jobs having the same requirements and groups them into batches. It is the responsibility of the operator to sort jobs with similar needs. Batch Operating System is designed to manage and execute a large number of jobs efficiently by processing them in groups. Batch Operating System Advantages of Batch Operating System Multiple users can share the batch systems.The idle time for the batch system is very little.It is easy to manage large work repeatedly in batch systems. Disadvantages of Batch Operating System CPU is not used efficiently. When the current process is doing IO, the CPU is free and could be utilized by other processes waiting.The other jobs will have to wait for an unknown time if any job fails.In a batch operating system, average response time increases as all processes are processed one by one.Examples of Batch Operating Systems: Payroll Systems, Bank Statements, etc. 2. Multi-Programming Operating System Multiprogramming Operating Systems can be simply illustrated as more than one program is present in the main memory and any one of them can be kept in execution. This is used for better utilization of resources. Multi Programming Advantages of, Multi-Programming Operating System CPU is better utilized, and the overall performance of the system improves.It helps in reducing the response time.Multi-tasking/Time-sharing Operating systemsIt is a type of Multiprogramming system with every process running in round robin manner. Each task is given some time to execute so that all the tasks work smoothly. Each user gets the time of the CPU as they use a single system. These systems are also known as Multitasking Systems. The task can be from a single user or different users. The time that each task gets to execute is called quantum. After this time interval is over, the OS switches over to the next task. Advantages of Time-Sharing OS Each task gets an equal opportunity.Fewer chances of duplication of software.CPU idle time can be reduced.Resource Sharing: Time-sharing systems allow multiple users to share hardware resources such as the CPU, memory, and peripherals, reducing the cost of hardware and increasing efficiency.Improved Productivity: Time-sharing allows users to work concurrently, thereby reducing the waiting time for their turn to use the computer. This increased productivity translates to more work getting done in less time.Improved User Experience: Time-sharing provides an interactive environment that allows users to communicate with the computer in real time, providing a better user experience than batch processing. Disadvantages of Time-Sharing OS Reliability problem.One must take care of the security and integrity of user programs and data.Data communication problem.High Overhead: Time-sharing systems have a higher overhead than other operating systems due to the need for scheduling, context switching, and other overheads that come with supporting multiple users.Complexity: Time-sharing systems are complex and require advanced software to manage multiple users simultaneously. This complexity increases the chance of bugs and errors.Security Risks: With multiple users sharing resources, the risk of security breaches increases. Time-sharing systems require careful management of user access, authentication, and authorization to ensure the security of data and software. Examples of Time-Sharing OS with explanation IBM VM/CMS: IBM VM/CMS is a time-sharing operating system that was first introduced in 1972. It is still in use today, providing a virtual machine environment that allows multiple users to run their instances of operating systems and applications. TSO (Time Sharing Option): TSO is a time-sharing operating system that was first introduced in the 1960s by IBM for the IBM System/360 mainframe computer. It allowed multiple users to access the same computer simultaneously, running their applications. Windows Terminal Services: Windows Terminal Services is a time-sharing operating system that allows multiple users to access a Windows server remotely. Users can run their applications and access shared resources, such as printers and network storage, in real time. 3. Multi-Processing Operating System A Multi-Processing Operating Systemis a type of Operating System in which more than one CPU is used for the execution of resources. It betters the throughput of the System. Multiprocessing Operating System Advantages of a Multi-User Operating System It increases the throughput of the system as processes can be parallelized.As it has several processors, so, if one processor fails, we can proceed with another processor.4. Multi-User Operating SystemsThese systems allow multiple users to be active at the same time. This system can be either a multiprocessor or a single processor with interleaving.Time-Sharing OS 5. Distributed Operating System These types of operating systems are a recent advancement in the world of computer technology and are being widely accepted all over the world and, that too, at a great pace. Various autonomous interconnected computers communicate with each other using a shared communication network. Independent systems possess their own memory unit and CPU. Systems. These systems' processors differ in size and function. The major benefit of working with these types of operating systems is that it is always possible that one user can access the files or software which are not present on his system but on some other system connected within this network, i.e., remote access is enabled within the devices connected to that network. Distributed OS Advantages of Distributed Operating System Failure of one will not affect the other network communication, as all systems are independent of each other.Electronic mail increases the data exchange speed.Since resources are being shared, computation is highly fast and durable.Load on host computer reduces.These systems are easily scalable as many systems can be easily added to the network.Delay in data processing reduces. Disadvantages of Distributed Operating System Failure of the main network will stop the entire communication.To establish distributed systems, the language is not yet well-defined.These types of systems are not readily available as they are very expensive. Not only that the underlying software is highly complex and not understood well yet. Examples of Distributed Operating Systems are LOCUS, etc. Issues With Distributed Operating Systems Networking causes delays in the transfer of data between nodes of a distributed system. Such delays may lead to an inconsistent view of data located in different nodes and make it difficult to know the chronological order in which events occurred in the system.Control functions like scheduling, resource allocation, and deadlock detection have to be performed in several nodes to achieve computation speedup and provide reliable operation when computers or networking components fail.Messages exchanged by processes present in different nodes may travel over public networks and pass through computer systems that are not controlled by the distributed operating system. An intruder may exploit this feature to tamper with messages or create fake messages to fool the authentication procedure and masquerade as a user of the system. 6. Network Operating System These systems run on a server and provide the capability to manage data, users, groups, security, applications, and other networking functions. These types of operating systems allow shared access to files, printers, security, applications, and other networking functions over a small private network. One more important aspect of Network Operating Systems is that all the users are well aware of the underlying configuration, of all other users within the network, their connections, etc., and that's why these computers are popularly known a tightly coupled systems. Network Operating System Advantages of Network Operating System Highly stable, centralized servers.Security concerns are handled through servers.New technologies and hardware upgrades are easily integrated into the system.Server access is possible remotely from different locations and types of systems. Disadvantages of Network Operating System Servers are costly.The user has to depend on a central location for most operations.Maintenance and updates are required regularly. Examples of Network Operating Systems are Microsoft Windows Server 2003, Microsoft Windows Server 2008, UNIX, Linux, Mac OS X, Novell NetWare, BSD, etc. 7. Real-Time Operating System These types of OSs serve real-time systems. The time interval required to process and respond to inputs is very small. This time interval is called response time. Real-time systems are used when there are time requirements that are very strict like missile systems, air traffic control systems, robots, etc. Types of Real-Time Operating Systems Hard Real-Time Systems: Hard Real-Time OSs are meant for applications where time constraints are very strict, and even the shortest possible delay is not acceptable. These systems are built for saving lives like automatic parachutes or airbags which are required to be readily available in case of an accident. Virtual memory is rarely found in these systems. Soft Real-Time Systems: These OSs are for applications where time is less strict. For more, refer to the Difference Between Hard Real-Time OS and Soft Real-Time OS. Real-Time Operating System Advantages of RTOS Maximum Consumption: Maximum utilization of devices and systems, thus more output from all the resources. Task Shifting: The time assigned for shifting tasks in these systems is very less. For example, in older systems, it takes about 10 microseconds to shift from one task to another, and in the latest systems, it takes 3 microseconds. Focus on Application: Focus on running applications and give less importance to applications that are in the queue. Real-time operating system in the embedded system: Since the size of programs is small, RTOS can also be used in embedded systems like in transport and others. Error-Free,: These types of systems are error-free. Memory Allocation: Memory allocation is best managed in these types of systems. Disadvantages of RTOS Limited Tasks: Very few tasks run at the same time and their concentration is very less on a few applications to avoid errors. Use heavy system resources: Sometimes the system resources are not so good and they are expensive as well. Complex Algorithms: The algorithms are very complex and difficult for the designer to write. Device driver and interrupt signals: It needs specific device drivers and interrupt signals to respond earliest to interrupts. Thread Priority: It is not good to set thread priority, as these systems are much less prone to switching tasks. Examples of Real-Time Operating Systems are Scientific experiments, medical imaging systems, industrial control systems, weapon systems, robots, air traffic control systems, etc.8. Mobile Operating SystemsMobile operating systems are designed specifically for mobile devices such as smartphones and tablets. Examples of such operating systems are Android and iOS. These operating systems manage the hardware and software resources of the device, providing a platform for running applications and ensuring a seamless user experience.Advantages of Mobile Operating SystemsUser-Friendly Interfaces: Mobile operating systems are designed to be intuitive and easy to use, making them accessible to a wide range of users.Extensive App Ecosystems: The availability of a vast number of applications allows users to customize their devices to meet their specific needs.Connectivity Options: Mobile operating systems support

move used against the same would do only a quarter of the regular damage. (A complete ineffectiveness against either type will make the move deal no damage, since 0 multiplied by any number is 0.) The type chart differs depending on the generation of games it is from. The type chart for Generation VI onward is shown below. × Defending type Normal Fighting Flying Poison Ground Rock Bug Ghost Steel Fire Water Grass Electric Psychic Ice Dragon Dark Fairy Attacking type Normal 1× 1× 1× 1× 1× ½× 1× 0× ½× 1× 1× 1× 1× 1× 1× 1× 1× Fighting 2× 1× ½× ½× 1× 2× ½× 0× 2× 1× 1× 1× ½× 2× 1× 2× ½× Flying 1× 2× 1× 1× 1× ½× 2× 1× 1× 1× 2× ½× 1× 1× 1× 1× 1× Poison 1× 1× 1× ½× ½× 1× ½× 0× 1× 1× 2× 1× 1× 1× 2× Ground 1× 1× 0× 2× 1× 2× ½× 1× 2× 2× 1× ½× 2× 1× 1× 1× 1× 1× Rock 1× ½× 2× 1× ½× 1× 2× 1× ½× 2× 1× 1× 1× 2× 1× 1× 2× 1× Bug 1× ½× ½× ½× 1× 1× 1× ½× ½× ½× 1× 2× 1× 2× ½× Ghost 0× 1× 1× 1× 1× 1× 2× 1× 1× 1× 2× 1× ½× 1× Steel 1× 1× 1× 1× 1× 1× 1× 2× 1× 1× 1× 2× ½× Fire 1× 1× 1× 1× 1× ½× 2× 1× 2× ½× ½× 2× 1× 1× 2× ½× 1× 1× Water 1× 1× 1× 1× 2× 2× 1× 1× 2× ½× ½× 1× 1× 1× ½× 1× 1× Grass 1× 1× ½× ½× 2× 2× ½× 1× ½× ½× 2× ½× 1× 1× ½× 1× 1× Electric 1× 1× 2× 1× 0× 1× 1× 1× 1× 2× ½× ½× 1× 1× ½× 1× 1× Psychic 1× 2× 1× 2× 1× 1× 1× ½× 1× 1× 1× 0× 1× Ice 1× 1× 2× 1× 2× 1× 1× 1× ½× ½× ½× 2× 1× 1× ½× 2× 1× 1× 1× 1× 1× 1× 1× ½× 1× 1× 1× 1× 1× 1× 1× 2× 1× 0× Dragon 1× 1× 1× 1× 1× 1× 1× ½× 1× 1× 1× 1× 1× 1× 2× 1× 0× Dark 1× ½× 1× 1× 1× 1× 2× 1× 1× 1× 1× 2× 1× ½× ½× Fairy 1× 2× 1× ½× 1× 1× 1× ½× ½× 1× 1× 1× 1× 2× 1× These matchups are suitable for Generation VI onward. In Inverse Battles, a different type chart is used that essentially inverts the regular type chart, turning immunities and resistances into weaknesses, and weaknesses into resistances. The Stellar type is super effective against Terastallized Pokémon, but is otherwise considered neutral against all types. It has no defensive properties at all, as a Stellar-type Pokémon will be treated as having its regular typing for defensive purposes. Dual-type damage misinformation glitch Main article: Dual-type damage misinformation In Generation I only, if a damaging move is used on a Pokémon with two types such that one of its types is weak to the move and the other type resists the move, it will correctly receive neutral damage, but the incorrect message will be displayed on-screen. This does not occur in Pokémon Stadium. Type-affected game mechanics Prior to Generation IV, the category of damaging moves only depends on the move's type; for example, all Normal-type damaging moves are physical moves and all Water-type damaging moves are special moves. From Generation IV onward, each individual move has a damage category that is independent of its type. When the type of a move matches one of the types of the Pokémon using it, the attack power will be increased by 50%. This is referred to as same-type attack bonus, or STAB for short. As an example, an Aron that knows the Steel-type move Metal Claw will have the move's power increased by 50% because one of Aron's types is Steel; the power of Cut would not be increased as Normal is not one of Aron's types. Some Pokémon types are immune to certain status moves or effects. For example, Grass-type Pokémon are immune to Leech Seed, and Ice-type Pokémon are not damaged by Hail. Some moves, field effects, Abilities, and held items affect moves of a certain type. Sunny Day, for example, causes Fire-type moves to increase in power, while Levitate causes Ground-type moves to not work on the Pokémon with this Ability. Likewise, each type has a specific held item that can be given to a Pokémon that will power up one of the specific types by 20% (or 10%, prior to Generation IV), such as the Metal Coat for Steel-type moves. Some moves and Abilities can temporarily change a Pokémon's type in battle. For example, the move Camouflage changes the user's type to a type corresponding to the battlefield terrain. Some type-changing Abilities include Color Change, Multitype, Protean, RKS System, and Libero. Additionally, the type of some moves may depend on the circumstances they are used in; for example, Weather Ball may be Fire-, Water-, Ice-, Rock-, or Normal-type depending on the weather it is used in. Additionally, there are Abilities that can modify move types as well as exactly three moves: (Electrify, Ion Deluge, and Plasma Fists). When a Pokémon has two types, those two types are always listed in an order specific to the Pokémon. This order is mostly aesthetic, but it affects Present in Generation II, Revelation Dance, and Judgment in Pokémon Legends: Arceus when used by Arceus holding a Legend Plate. Terastallizing can change a Pokémon's type to any single type, which will also change the type of the move Tera Blast. Typeless Struggle, a Normal-type move, dealing typeless damage to Gastly There are situations where Pokémon or moves behave as if they were typeless, unable to receive STAB and boosts from type-enhancing items or Abilities. This is most commonly possible through effects that make one lose a type, such as Burn Up, Roost, and Double Shock. Typeless Pokémon take regular damage from all moves, and typeless moves deal regular damage against all Pokémon. Struggle acts typelessly from Generation II onward. The move Weather Ball acts typelessly under shadowy aura, and the move Revelation Dance acts typelessly if used by a typeless user. Beat Up, Future Sight, and Doom Desire deal typeless damage before Generation V. Prior to Generation V, typeless damage will ignore Wonder Guard. From Generation V onwards, typeless moves are blocked by Wonder Guard, with the exception of Struggle. A typeless Pokémon has no types displayed on its battle summary. Icons In Generations I and II, the core series games just used the type's name, with the only icons being in Pokémon Stadium series games. In Pokémon GO, icons were introduced to represent each of the types during gameplay. Very similar icons were later adopted into the core series, starting with Pokémon Sun and Moon on Z-Crystals and then following up with the subsequent core series games and Pokémon HOME. Some alternate icons associated with types appeared before. In Pokémon X and Y, the floor of the Pokémon League's Radiant Chamber features a set of type icons as decoration. The Indigo Disk DLC for Pokémon Scarlet and Violet introduced a Pokémon named Terapagos, whose shell displays icons for every type, reflecting its unique power to change types. Pokémon Sun, Moon, Ultra Sun and Ultra Moon Pokémon Let's Go, Pikachu!, Let's Go, Eevee!, Sword, Shield, and HOME (prior to 3.0.0) Pokémon Brilliant Diamond and Shining Pearl onward and HOME (3.0.0 onward) Name icons This section is incomplete.Please feel free to edit this section to add missing information and complete it. Reason: Documentation of abreviations in other languages In Generation IV games, the icons similar to ones in Ruby, Sapphire, and Emerald are used in the summary and in-battle, while the Diamond, Pearl, and Platinum icons are used in the Pokédex. Symbol icons In the spin-off games Pokémon Mystery Dungeon series Main article: Damage modification (Mystery Dungeon) In Pokémon Mystery Dungeon: Red Rescue Team and Blue Rescue Team, the matchup multipliers are 0.5×, 0.9×, 1× and 1.5×. In Explorers of Time, Darkness and Sky, the multipliers have been changed to 0.5×, 0.7×, 1× and 1.4×; if either the attacker or the defender has Erratic Player IQ skill, they are 0.25×, 0.5×, 1× and 1.7×, instead. Immunities provided from Abilities or moves, such as Levitate or Magnet Rise, are still 0×. Type matchups that would usually be immunities are instead announced as "It had little effect..." In Pokémon Super Mystery Dungeon and Pokémon Mystery Dungeon: Rescue Team DX, moves that are ineffective in the core series are now ineffective as well (0× damage). Pokémon Ranger series In the Pokémon Ranger series, each Pokémon has a group, equivalent to a type in the core series. The effectiveness of Poké Assists on wild Pokémon is dependent on the Pokémon's group. Pokémon Rumble series In the Pokémon Rumble series, the type effectiveness chart differs from the equivalent type chart in contemporaneous core series games. Moves that are ineffective in the core series deal 0.6× damage instead, moves that would be not very effective against one or both of the target's types deal ~0.8× or ~0.7× damage, respectively, and moves that would be super effective against one or both of the target's types deal ~1.2× and ~1.4× damage, respectively. Pokémon Battrio Main article: Type (Battrio) Pokémon in Pokémon Battrio all have one type in line with one of their types in the core games. Battrio also includes two unique types exclusively for Arceus, the Full Plate and Eleven-Plate types. Pokémon Battrio's type effectiveness chart is also unique, with different possible strengths for weaknesses or resistances. For example, while Grass-type Pokémon are weak to both Ice- and Fire-type moves, they are weaker to Fire-type moves than to Ice-type moves. Players with a Memory Key can also gain experience towards different types that will level up their Type Levels, granting Pokémon of that type a bonus in Attack or HP. Pokémon Shuffle Main article: Pokémon Shuffle → Type Pokémon in Pokémon Shuffle each only have one type. Pokémon Shuffle's type effectiveness chart is also slightly different than the contemporaneous Generation VI chart, with 0× effectivenesses turned into ½× effectiveness. Type is also used to determine immunity to certain status conditions. Pokémon Quest Pokémon have types (either one or two, as normal), and moves have types, but there are no type advantages in Pokémon Quest. Types still serve several roles, usually through matching a prompted type. When Pokémon use moves of the same type they are, the move deals additional damage. Certain bingo bonuses increase the Attack of moves of a specified type that the Pokémon knows, or reduces the Wait of those moves. There are also bingo bonuses that reduce oncoming damage of a specific type. Each of the game's areas has a bonus Type. When playing a stage of that area, the player's Pokémon of that Type get a boost to their HP and Attack. Level-Up Training provides increased Exp to the Training Pokémon if the Training Pokémon and the Supporting Pokémon share a type. Similarly, Move Learning Training has a higher success rate for changing the Training Pokémon's moves when the Training Pokémon and the Supporting Pokémon share a type. Most of the game's dishes attract Pokémon with a specific type to the base camp, allowing the player to befriend them. The dish is themed to match the type in question. For example, the Honey Nectar à la Cube is the favorite food of Bug-type Pokémon, and the Get Swole Syrup à la Cube is the favorite food of Fighting-type Pokémon. While there are eighteen different dishes, equal to the number of types, six of them attract Pokémon based on qualities that are not type. This means that Dark, Steel, Fairy, Ghost, Dragon, and Ice all do not have an associated dish. Some Challenge Quests relate to Pokémon types, tasking the player with defeating Pokémon of specific types and befriending Pokémon of specific types. One group of Quests is about going on expeditions with teams where all three Pokémon have a specific type. Pokémon GO In Pokémon GO, type effectiveness multipliers differ from the core series games, but using the same type effectiveness chart. The multiplier for Pokémon GO is 1.6n (1.4 prior to December 12, 2018 and 1.25 prior to June 21, 2017). The exponent n starts at 0, with weakness adding 1, resistance substracting 1, and an immunity being equal to a double resistance, subtracting 2. As such, the following multipliers are possible: Type effectiveness Multiplier Doubly super effective ×2.56 Super effective ×1.6 Neutral ×1 Resisted ×0.625 Doubly resisted ×0.390625 Triply resisted* ×0.244140625 Pokémon Masters EX Each Pokémon in Pokémon Masters EX is assigned with a singular type and one type that Pokémon is weak against, regardless of how many weaknesses it has in the core series games. In addition, type immunities do not exist in this game. Mostly these types and weaknesses follow the core series; the only exceptions to these are Pryce's Seel (which is classified as an Ice type, despite being a pure Water type in the core series) and Barry's Empoleon (which is weak against Grass, despite not being weak to it in the core series games). Different Pokémon of the same species can have a different type or weakness, depending on which Trainer it belongs to. Pokémon UNITE There are no type advantages in Pokémon UNITE. However, events make use of Pokémon types. The Dragon Carnival event rewarded players for collecting and using the Dragon types on the roster. It included the event only Quick Battle Full-Burst Battle! Dragon Dustup, which is themed entirely around Dragon types. Every wild Pokémon in this kind of battle is Dragon-type except for Swablu, the pre-Evolution of the Dragon-type Altaria. Further, players can only use Dragon-type Pokémon. The Fairy Festival event is similar but is focused on Fairy-type Pokémon. There is also a bonus for having any Fairy-type Pokémon in a battle, even if they are on the opposing team. Instead of having a original Quick Battle, Panic Parade was changed to grant players a 10% boost to their event points for each Fairy-type Pokémon on the players' team and allow the allied Tinkaton to use an extra move for each Fairy-type Pokémon on the player's team. Both benefits cap out at three Fairy-type Pokémon. Pokémon Sleep Pokémon in Pokémon Sleep each only have one type. Types in Pokémon Sleep are solely used to determine the Berries that the Pokémon may gather, as follows. Types should not be confused with sleep types. In the TCG Main article: Type (TCG) There are eleven types in the Pokémon Trading Card Game, significantly fewer than in other Pokémon media. Because of the smaller number of types, Pokémon often have different types in the TCG to other Pokémon media. Due to the fact that Pokémon in the TCG can usually only have one type, dual-type Pokémon often have different cards which correspond to the Pokémon's two different types, since type is a property of the individual card and not the species. In the TCG, moves do not have their own type. Instead, for Weakness and Resistance, the type of the Pokémon card is used instead. In other languages Related articles References This article is about the generic aspects of type indicator theory. For the book by Jung, see Psychological Types. In psychology, personality type refers to the psychological classification of individuals. In contrast to personality traits, the existence of personality types remains extremely controversial.[1][2] Types are sometimes said to involve qualitative differences between people, whereas traits might be construed as quantitative differences.[3] According to type theories, for example, introverts and extraverts are two fundamentally different categories of people. According to trait theories, introversion and extraversion are part of a continuous dimension, with many people in the middle. Effective personality typologies reveal and increase knowledge and understanding of individuals, as opposed to diminishing knowledge and understanding as occurs in the case of stereotyping. Effective typologies also allow for increased ability to predict clinically relevant information about people and to develop effective treatment strategies.[4] There is an extensive literature on the topic of classifying the various types of human temperament and an equally extensive literature on personality traits or domains. These classification systems attempt to describe normal temperament and personality and emphasize the predominant features of different temperament and personality types; they are largely the province of the discipline of psychology. Personality disorders, on the other hand, reflect the work of psychiatry, a medical specialty, and are disease-oriented. They are classified in the Diagnostic and Statistical Manual (DSM), a product of the American Psychiatric Association.[5] The term type has not been used consistently in psychology and has become the source of some confusion. Furthermore, because personality test scores usually fall on a bell curve rather than in distinct categories,[6] personality type theories have received considerable criticism among psychometric researchers. One study that directly compared a "type" instrument (the MBTI) to a "trait" instrument (the NEO PI) found that the trait measure was a better predictor of personality disorders.[7] Because of these problems, personality type theories have fallen out of favor in psychology. Most researchers now believe that it is impossible to explain the diversity of human personality with a small number of discrete types. They recommend trait models instead, such as the five-factor model.[8][9][10] Further information: Table of similar systems of comparison of temperaments An early form of personality type indicator theory was the Four Temperaments system of Galen, based on the four humours model of Hippocrates; an extended five temperaments system based on the classical theory was published in 1958. One example of personality types is Type A and Type B personality theory. According to this theory, impatient, achievement-oriented people are classified as Type A, whereas easy-going, relaxed individuals are designated as Type B. The theory originally suggested that Type A individuals were more at risk for coronary heart disease, but this claim has not been supported by empirical research.[11] One study suggests that people with Type A personalities are more likely to develop personality disorders whereas Type B personalities are more likely to become alcoholics.[12] Developmental psychologist Jerome Kagan is a prominent advocate of type indicator theory. He suggests that shy, withdrawn children are best viewed as having an inhibited temperament, which is qualitatively different from that of other children.[13] As a matter of convenience, trait theorists sometimes use the term type to describe someone who scores exceptionally high or low on a particular personality trait. Hans Eysenck refers to superordinate personality factors as types, and more specific associated traits as traits. Several pop psychology theories (e.g., Men Are From Mars, Women Are From Venus, the enneagram) rely on the idea of distinctively different types of people. Nancy McWilliams distinguishes eight psychoanalytic personalities: Psychopathic (Antisocial), Narcissistic, Schizoid, Paranoid, Depressive and Manic, Masochistic (Self-Defeating), Obsessive and Compulsive, Hysterical (Histrionic), and one Dissociative psychology.[14] One of the more influential ideas originated in the theoretical work of Carl Jung, as published in the book Psychological Types. The original German language edition, Psychologische Typen, was first published by Rascher Verlag [de], Zurich, in 1921.[15] Jung's theory of psychological types is based on the assumption that there are different functions of consciousness and attitudes of consciousness.[16] Typologies such as Socionics, the MBTI assessment, and the Keirsey Temperament Sorter have their roots in Jungian theory.[17][18] Jung's interest in typology grew from his desire to reconcile the theories of Sigmund Freud and Alfred Adler, and to define how his own perspective differed from theirs. Jung wrote, "In attempting to answer this question, I came across the problem of types; for it is one's psychological type which from the outset determines and limits a person's judgment." (Jung, [1961] 1989:207) He concluded that Freud's theory was extraverted and Adler's introverted. (Jung, [1921] 1971: par. 91) Jung became convinced that acrimony between the Adlerian and Freudian camps was due to this unrecognized existence of different fundamental psychological attitudes, which led Jung "to conceive the two controversial theories of neurosis as manifestations of a type-antagonism." (Jung, 1966: par. 64) In the book Jung categorized people into primary types of psychological function. Jung proposed the existence of two dichotomous pairs of cognitive functions: The "rational" (judging) functions: thinking and feeling The "irrational" (perceiving) functions: sensation and intuition Jung went on to suggest that these functions are expressed in either an introverted or extraverted form.[19]:17 According to Jung, the psyche is an apparatus for adaptation and orientation, and consists of a number of different psychic functions. Among these he distinguishes four basic functions:[20] sensation—perception by means of immediate apprehension of the visible relationship between subject and object intuition—perception of processes in the background; e.g. unconscious drives and/or motivations of other people thinking—function of intellectual cognition; the forming of logical conclusions feeling—function of subjective estimation, value oriented thinking Thinking and feeling functions are rational, while sensation and intuition are nonrational. According to Jung, rationality consists of figurative thoughts, feelings or actions with reason — a point of view based on a set of criteria and standards. Nonrationality is not based in reason. Jung notes that elementary facts are also nonrational, not because they are illogical but because, as thoughts, they are not judgments. Behavioral and psychological characteristics distinguishing introversion and extraversion, which are generally conceived as lying along a continuum. Analytical psychology distinguishes several psychological types or temperaments. Extravert (Jung's spelling, although some dictionaries prefer the variant extrovert) Introvert Extraversion means "outward-turning" and introversion means "inward-turning".[21] These specific definitions vary somewhat from the popular usage of the words. The preferences for extraversion and introversion are often called attitudes. Each of the cognitive functions can operate in the external world of behavior, action, people, and things (extraverted attitude) or the internal world of ideas and reflection (introverted attitude). People who prefer extraversion draw their energy toward objective, external data. They seek to experience and base their judgments on data from the outer world. Conversely, those who prefer introversion draw their energy toward subjective, internal data. They seek to experience and base their judgments on data from the inner world.[20] The attitude type could be thought of as the flow of libido (psychic energy). The functions are modified by two main attitude types: extraversion and introversion. In any person, the degree of introversion or extraversion of one function can be quite different from that of another function. Jung identified two pairs of psychological functions: The two irrational (perception) functions, sensation and intuition The two rational (judgment) functions, thinking and feeling Sensation and intuition are irrational (perception) functions, meaning they gather information. They describe how information is received and experienced. Individuals who prefer sensation are more likely to trust information that is real, concrete, and actual, meaning they seek the information itself. They prefer to look for discernable details. For them, the meaning is in the data. On the other hand, those who prefer intuition tend to trust information that is envisioned or hypothetical, that can be associated with other possible information. They are more interested in hidden possibilities via the unconscious. The meaning is in how or what the information could be.[22] Thinking and feeling are rational (judgment) functions, meaning they form judgments or make decisions. The thinking and feeling functions are both used to make rational decisions, based on the data received from their information-gathering functions (sensing or intuition). Those who prefer thinking tend to judge things from a more detached standpoint, measuring the decision by what is logical, causal, consistent, and functional. Those who prefer the feeling function tend to form judgments by evaluating the situation; deciding the worth of the situation. They measure the situation by what is pleasant or unpleasant, liked or disliked, harmonious or inharmonious, etc. As noted already, people who prefer the thinking function do not necessarily, in the everyday sense, "think better" than their feeling counterparts; the opposite preference is considered an equally rational way of coming to decisions (and, in any case, the Jung's typology is a discernment of preference, not ability). Similarly, those who prefer the feeling function do not necessarily have "better" emotional reactions than their thinking counterparts. All four functions are used at different times depending on the circumstances. However, one of the four functions is generally used more dominantly and proficiently than the other three, in a more conscious and confident way. According to Jung the dominant function is supported by two auxiliary functions. (In MBTI publications the first auxiliary is usually called the auxiliary or secondary function and the second auxiliary function is usually called the tertiary function.) The fourth and least conscious function is always the opposite of the dominant function. Jung called this the "inferior function" and Myers sometimes also called it the "shadow function".[19]:84 Jung's typological model regards psychological type as similar to left- or right-handedness: individuals are either born with, or develop, certain preferred ways of thinking and acting. These psychological differences are sorted into four opposite pairs, or dichotomies, with a resulting eight possible psychological types. People tend to find using their opposite psychological preferences more difficult, even if they can become more proficient (and therefore behaviorally flexible) with practice and development. The four functions operate in conjunction with the attitudes (extraversion and introversion). Each function is used in either an extraverted or introverted way. A person whose dominant function is extraverted intuition, for example, uses intuition very differently from someone whose dominant function is introverted intuition. The eight psychological types are as follows: Extraverted sensation Introverted sensation Extraverted intuition Introverted intuition Extraverted thinking Introverted thinking Extraverted feeling Introverted feeling Jung theorized that the dominant function characterizes consciousness, while its opposite is repressed and characterizes unconscious activity. Generally, we tend to favor our most developed dominant function, while we can broaden our personality by developing the others. Related to this, Jung noted that the unconscious often tends to reveal itself most easily through a person's least developed inferior function. The encounter with the unconscious and development of the underdeveloped functions thus tend to progress together. When the unconscious inferior functions fail to develop, imbalance results. In Psychological Types, Jung describes in detail the effects of tensions between the complexes associated with the dominant and inferior differentiating functions in highly one-sided individuals. The relationship between worry – the tendency of one's thoughts and mental images to revolve around and create negative emotions, and the experience of a frequent level of fear – and Jung's model of psychological types has been the subject of studies. In particular, correlational analysis has shown that the tendency to worry is significantly related to Jung's Introversion and Feeling dimensions. Similarly, worry has shown robust correlations with shyness and fear of social situations. The worrier's tendency to be fearful of social situations might make them appear more withdrawn.[23] Jung's model suggests that the superordinate dimension of personality is introversion and extraversion. Introverts are likely to relate to the external world by listening, reflecting, being reserved, and having focused interests. Extraverts, on the other hand, are adaptable and in tune with the external world. They prefer interacting with the outer world by talking, actively participating, being sociable, expressive, and having a variety of interests. Jung (1921) also identified two other dimensions of personality: Intuition - Sensing and Thinking - Feeling. Sensing types tend to focus on the reality of present situations, pay close attention to detail, and are concerned with practicalities. Intuitive types focus on envisioning a wide range of possibilities to a situation and favor ideas, concepts, and theories over data. Thinking types use objective and logical reasoning in making their decisions, are more likely to analyze stimuli in a logical and detached manner, be more emotionally stable, and score higher on intelligence. Feeling types make judgments based on subjective and personal values. In interpersonal decision-making, feeling types tend to emphasize compromise to ensure a beneficial solution for everyone. They also tend to be somewhat more neurotic than thinking types. The worrier's tendency to experience a fearful affect, could be manifested in Jung's feeling type. General overview Personality Personality psychology Personality tests Psychological typologies Trait theory Trait leadership Three modern theories closely associated with Jung's personality types Keirsey Temperament Sorter Myers–Briggs Type Indicator Socionics Other theories 16 Personality Factors, or the Cattell personality test Attitudinal Psyche Big Five personality traits DISC assessment Enneagram of Personality Eysenck's three-factor model Eysenck Personality Questionnaire Five temperaments Fundamental interpersonal relations orientation Gretchen Rubin's four tendencies HEXACO model of personality structure Holland Codes Humorism Type A and Type B personality theory ^ Donnellan, M. Brent; Robins, Richard W. (2010). "Resilient, Overcontrolled, and Undercontrolled Personality Types: Issues and Controversies". Social and Personality Psychology Compass. 4 (11): 1070–1083. doi:10.1111/j.1751-9004.2010.00313.x. ISSN 1751-9004. ^ Gerlach M.; Farb B.; Revelle W.; Nunes Amaral L. A. 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ISBN 0-679-72395-1. Retrieved from " 2 The Sixteen Personality Factor Questionnaire (16PF) is a self-reported personality test developed over several decades of empirical research by Raymond B. Cattell, Maurice Tatsuoka and Herbert Eber. The 16PF provides a measure of personality and can also be used by psychologists, and other mental health professionals, as a clinical instrument to help diagnose psychiatric disorders, and help with prognosis and therapy planning. The 16PF can also provide information relevant to the clinical and counseling process, such as an individual's capacity for insight, self-esteem, cognitive style, internalization of standards, openness to change, capacity for empathy, level of interpersonal trust, quality of attachments, interpersonal needs, attitude toward authority, reaction toward dynamics of power, frustration tolerance, and coping style. Thus, the 16PF instrument provides clinicians with a normal-range measurement of anxiety, adjustment, emotional stability and behavioral problems. Clinicians can use 16PF results to identify effective strategies for establishing a working alliance, to develop a therapeutic plan, and to select effective therapeutic interventions or modes of treatment.[1] It can also be used within other areas of psychology, such as career and occupational selection.[2] 16PF QuestionnaireMeSHD002416 Beginning in the 1940s, Cattell used several techniques including the new statistical technique of common factor analysis applied to the English-language trait lexicon to elucidate the major underlying dimensions within the normal personality sphere. This method takes as its starting point the matrix of inter-correlations between these variables in an attempt to uncover the underlying source traits of human personality.[3] Cattell found that personality structure was hierarchical, with both primary and secondary stratum level traits.[4] At the primary level, the 16PF measures 16 primary trait constructs, with a version of the Big Five secondary traits at the secondary level.[5][6][7] These higher-level factors emerged from factor-analyzing the 16 x 16 intercorrelation matrix for the sixteen primary factors themselves. The 16PF yields scores on primary and second-order "global" traits, thereby allowing a multilevel description of each individual's unique personality profile. A listing of these trait dimensions and their description can be found below. Cattell also found a third-stratum of personality organization that comprised just two overarching factors.[8][9] The measurement of normal personality trait constructs is an integral part of Cattell's comprehensive theory of intrapersonal psychological variables covering individual differences in cognitive abilities, normal personality traits, abnormal (psychopathological) personality traits, dynamic motivational traits, mood states, and transitory emotional states[10] which are all taken into account in his behavioral specification/prediction equation.[11] The 16PF has also been translated into over 30 languages and dialects and is widely used internationally.[12][13] Cattell and his co-workers also constructed downward extensions of the 16PF – parallel personality questionnaires designed to measure corresponding trait constructs in younger age ranges, such as the High School Personality Questionnaire (HSPQ) – now the Adolescent Personality Questionnaire (APQ) for ages 12 to 18 years,[14] the Children's Personality Questionnaire (CPQ),[15] the Early School Personality Questionnaire (ESPQ),[16] as well as the Preschool Personality Questionnaire (PSPQ).[17] Cattell also constructed (T-data) tests of cognitive abilities such as the Comprehensive Ability Battery (CAB) – a multidimensional measure of 20 primary cognitive abilities,[18] as well as measures of non-verbal visuo-spatial abilities, such as the three scales of the Culture-Fair Intelligence Test (CFIT),[19] In addition, Cattell and his colleagues constructed objective (T-data) measures of dynamic motivational traits including the Motivation Analysis Test (MAT),[20] the School Motivation Analysis Test (SMAT),[21] as well as the Children's Motivation Analysis Test (CMAT).[22][23] As for the mood state domain, Cattell and his colleagues constructed the Eight State Questionnaire (8SQ), a self-report (Q-data) measure of eight clinically important emotional/mood states, labeled Anxiety, Stress, Depression, Regression, Fatigue, Guilt, Extraversion, and Arousal.[24] The most recent edition of the Sixteen Personality Factor Questionnaire (16PF), released in 1993, is the fifth edition (16PF5e) of the original instrument.[25][26] The self-report instrument was first published in 1949; the second and third editions were published in 1956 and 1962, respectively; and the five alternative forms of the fourth edition were released between 1967 and 1969.[27] The goal of the fifth edition revision in 1993 was to: update, improve, and simplify the language used in the test items; simplify the answer format; develop new validity scales; improve the psychometric properties of the test, including new reliability and validity data; and develop a new standardization sample (of 10,000 people) to reflect the current U.S. Census population. The 16PF Fifth Edition contains 185 multiple-choice items which are written at a fifth-grade reading level. Of these items, 76% were from the four previous 16PF editions, although many of them were re-written to simplify or update the language. The item content typically sounds non-threatening and asks simple questions about daily behavior, interests, and opinions. This section does not cite any sources. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. (February 2022) (Learn how and when to remove this message) A characteristic of the 16PF items is that, rather than asking respondents to self-assess their personality as some instruments do (e.g., "I am a warm and friendly person; I am not a worrier; I am an even tempered person."), they tend instead to ask about daily, concrete situations, e.g.: When I find myself in a boring situation, I usually "tune out" and daydream about other things. True/False. When a bit of tact and convincing is needed to get people moving, I'm usually the one who does it. True/False. Cattell argued that self-ratings relate to self-image, and are affected by self-awareness, and defensiveness about one's actual traits. The 16PF provides scores on 16 primary personality scales and five global personality scales, all of which are bi-polar (both ends of each scale have a distinct, meaningful definition). The instrument also includes three validity scales: a bi-polar Impression Management (IM) scale, an Acquiescence (ACQ) scale, and an Infrequency (INF) scale. The Impression Management (IM) scale is a bipolar scale with high scores reflecting a preponderance of socially desirable responses and low scores reflecting a preponderance of socially undesirable responses. Possible reasons for an extremely high Impression Management score include: the examinee may actually behave in highly socially desirable ways, and responses are accurate self-descriptions; responses reflect an unconscious distortion consistent with the examinee's self-image but not with their behavior; or deliberate self-presentation as behaving in a highly socially desirable manner. A low impression management score suggests an unusual willingness to admit undesirable attributes or behaviors and can occur when an examinee is unusually self-critical, discouraged, or under stress. The Acquiescence (ACQ) scale's purpose is to index the degree to which the examinee agreed with items regardless of what was being asked. A high score might indicate that the examinee misunderstood the item content, responded randomly, has an unclear self-image, or had a "yea-saying" response style. The Infrequency (INF) scale comprises the most statistically infrequent responses on the test, which are all middle (b) responses and appear in the test booklet with a question mark. A score above the 95th percentile may indicate that the examinee had trouble reading or comprehending the questions, responded randomly, experienced consistent indecisiveness about the a or c response choice, or tried to avoid making the wrong impression by choosing the middle answer rather than one of the more definitive answers. Administration of the test takes about 35–50 minutes for the paper-and-pencil version and about 30 minutes by computer. The test instructions are simple and straightforward and the test is un-timed; thus, the test is generally self-administrable and can be used in either an individual or a group setting. The 16PF test was designed for adults at least age 16 and older, but there are also parallel tests for various younger age ranges (e.g., the 16PF Adolescent Personality Questionnaire[14]). The 16PF Questionnaire has been translated into more than 30 languages and dialects.[13] Thus the test can be administered in different languages, scored based on either local, national, or international normative samples, and computerized interpretive reports provided in about 23 different languages. The test has generally been culturally adapted (rather than just translated) in these countries, with local standardization samples plus reliability and validity information collected locally and presented in individual manuals. The test can be hand-scored using a set of scoring keys, or computer-scored by mailing-in or faxing-in the answer sheet to the publisher IPAT. There is also a software system that can be used to administer, score, and provide reports on the test results directly in the professional's office; and an Internet-based system that can also provide administration, scoring, and reports in a range of different languages. After the test has been administered there is a total score computed from each of the 16 personality factors. These totals have been created in a way to correlate to the sten scale.[28] Scores on the 16PF are presented on a 10-point scale, or standard-ten scale. The sten scale has a mean of 5.5 and a standard deviation of 2, with scores below 4 considered low and scores above 7 considered high.[29] The sten scales are bipolar, meaning that each end of the scale has a distinct definition and meaning. Because bipolar scales are designated with "high" or "low" for each factor, a high score should not be considered to reflect a positive personality characteristic and a low score should not be considered to reflect a negative personality characteristic. Cattell and Schuerger provided six steps that outline how they recommend interpreting the results of the 16PF:[30] Consider the context of the assessment. Evaluate the Response Style Indexes by first checking responses on Factor B, and then looking at scores on the Infrequency, Impression Management, and Acquiescence scales. Evaluate the Global Scale scores. Evaluate the Primary Scales in the context of the Global Scales Consider scale interactions Integrate 16PF results in relation to the assessment question There are about a dozen computer-generated interpretive reports that can be used to help interpret the test for different purposes, for example: Career Development Report Karson Clinical Report Cattell Comprehensive Personality Interpretation Te

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Evaluate the Primary Scales in the context of the Global Scales Consider scale interactions Integrate 16PF results in relation to the assessment question There are about a dozen computer-generated interpretive reports that can be used to help interpret the test for different purposes, for example: Career Development Report Karson Clinical Report Cattell Comprehensive Personality Interpretation Teamwork Development Report, Management Potential Report, Security Selection Report Leadership Coaching Report There are also many books that help with test interpretation, for example, 16PF Interpretation in Clinical Practice (Karson, Karson, & O'Dell, 1997),[31] The 16PF: Personality in Depth (Cattell, H.B., 1989),[32] and Essentials of the 16PF (Cattell, H.E. & Schuerger, J.M, 2003)[33] The 16PF traits are also included in the Psychological Evaluation Questionnaire (PEQ), which combines measures of both normal and abnormal personality traits into one test (Cattell, Cattell, Cattell, Russell, & Bedwell, 2003)[30] Below is a table outlining the personality traits measured by the 16PF Questionnaire. Descriptors of low range Primary factor Descriptors of high range Impersonal, distant, cool, reserved, detached, formal, aloof Warmth(A) Warm, outgoing, attentive to others, kindly, easygoing, participating, likes people Concrete-thinking, less intelligent, lower general mental capacity, unable to handle abstract problems Reasoning(B) Abstract-thinking, more intelligent, bright, higher general mental capacity, fast-learner Reactive emotionally, changeable, affected by feelings, emotionally less stable, easily upset Emotional Stability(C) Emotionally stable, adaptive, mature, faces reality calmly Deferential, cooperative, avoids conflict, submissive, humble, obedient, easily led, docile, accommodating Dominance(E) Dominant, forceful, assertive, aggressive, competitive, stubborn, bossy Serious, restrained, prudent, taciturn, introspective, silent Liveliness(F) Lively, animated, spontaneous, enthusiastic, happy-go-lucky, cheerful, expressive, impulsive Expedient, nonconforming, disregards rules, self-indulgent Rule-Consciousness(G) Rule-conscious, dutiful, conscientious, conforming, moralistic, staid, rule-bound Shy, threat-sensitive, timid, hesitant, intimidated Social Boldness(H) Socially bold, venturesome, thick-skinned, uninhibited Utilitarian, objective, unsentimental, tough-minded, self-reliant, no-nonsense, rough Sensitivity(I) Sensitive, aesthetic, sentimental, tender-minded, intuitive, refined Trusting, unsuspecting, accepting, unconditional, easy Vigilance(L) Vigilant, suspicious, skeptical, distrustful, oppositional Grounded, practical, prosaic, solution oriented, steady, conventional Abstractedness(M) Abstract, imaginative, absentminded, impractical, absorbed in ideas Forthright, genuine, artless, open, guileless, naive, unpretentious, involved Privateness(N) Private, discreet, nondisclosing, shrewd, polished, worldly, astute, diplomatic Self-assured, unworried, complacent, secure, free of guilt, confident, self-satisfied Apprehension(O) Apprehensive, self-doubting, worried, guilt-prone, insecure, worrying, self-blaming Traditional, attached to familiar, conservative, respecting traditional ideas Openness to Change(Q1) Open to change, experimental, liberal, analytical, critical, freethinking, flexibility Group-oriented, affiliative, a joiner and follower dependent Self-Reliance(Q2) Self-reliant, solitary, resourceful, individualistic, self-sufficient Tolerates disorder, unexacting, flexible, undisciplined, lax, self-conflict, impulsive, careless of social rules, uncontrolled Perfectionism(Q3) Perfectionistic, organized, compulsive, self-disciplined, socially precise, exacting will power, control, self-sentimental Relaxed, placid, tranquil, torpid, patient, composed low drive Tension(Q4) Tense, high-energy, impatient, driven, frustrated, over-wrought, time-driven Primary Factors and Descriptors in Cattell's 16 Personality Factor Model (Adapted from Conn & Rieke, 1994). In the Fourth and Fifth Editions of the 16PF, there were five global factors that seem to correspond fairly closely to the "Big Five personality traits".[34] The Big Five (BF) trait of Openness seems to be related to 16PF Openness/Tough-mindedness, The BF trait of Conscientiousness to the 16PF Self-Control, the BF Extraversion to the 16PF Extraversion, the BF Agreeableness/Dis-Agreeableness to the 16PF Independence/Accommodation, and the BF Neuroticism to the 16PF Anxiety.[35] In fact, the development of the Big-Five factors began in 1963 with W.T. Norman factor-analyzing responses to the same items as the 16PF, replicating Cattell's work and suggested that five factors would be sufficient.[36] However, one big technical difference between Cattell's five Global Factors and popular five-factor models was Cattell's insistence on using oblique rotation in the factor analysis whereas Goldberg and Costa & McCrae used orthogonal rotation in their factor analysis. Oblique rotation allows the factors to correlate with each other, whereas orthogonal rotation restricts the factors from correlating with each other. Although personality traits are thought to be correlated, using orthogonal factor analysis makes the factors easier to understand and to work on statistically in research. This is one of the reasons the Big-Five traits have definitions that are different from the 16PF global factors. For example, as seen in the table below, in Cattell's model the primary personality trait of Dominance (Factor E) is strongly located in the Independence/Accommodation global factor which represents a quality of fearless, original thinking and forceful, independent actions. However, other popular big five models consider Dominance as a facet of several Big-Five traits, including Extraversion, Dis-Agreeableness, and Conscientiousness. Thus Dominance is spread across a range of Big-Five factors with little influence on any one (Cattell & Mead, 2008). Below is a table that shows how the 16 primary factors are related to the five global factors of the 16 Personality Factor theory. Compare with the Hierarchical Structure of the Big Five. Also, note that factor B is considered separate from the other factors because it is not a part of the hierarchical structure of personality in the same way as the other factors.[citation needed] Assumptions shared by standardized personality tests, simply stated, are that humans possess characteristics or traits that are stable, vary from individual to individual, and can be measured.[37][38] Factor analysis is a statistical procedure for reducing the redundancy in a set of intercorrelated scores. One major technique of factor analysis, the principal-components method, finds the minimum number of common factors that can account for an interrelated set of scores.[37][39] Cattell's goal was to empirically determine and measure the essence of personality.[37] Cattell used factor analysis to reduce thousands of psychological traits into what he believed to be 16 of the basic dimensions, or source traits of human personality. As a result, he created the 16PF personality test.[37][38] Introversion/Extroversion Low Anxiety/High Anxiety Receptivity/Tough-Mindedness Accommodation/Independence Lack of Restraint/Self-Control A: Reserved/Warm C: Emotionally Stable/Reactive A: Warm/Reserved E: Deferential/Dominant F: Serious/Lively B: Problem-Solving F: Serious/Lively L: Trusting/Vigilant I: Sensitive/Unsentimental H: Shy/Bold G: Expedient/Rule-Conscious H: Shy/Bold O: Self-Assured/Apprehensive M: Abstracted/Practical L: Trusting/Vigilant M: Abstracted/Practical N: Private/Forthright Q4: Relaxed/Tense Q1: Open-to-Change/Traditional Q1: Traditional/Open-to-Change Q3: Tolerates Disorder/Perfectionistic Q2: Self-Reliant/Group-Oriented The 16PF Questionnaire was created from a fairly unusual perspective among personality tests. Most personality tests are developed to measure just the pre-conceived traits that are of interest to a particular theorist or researcher. The main author of the 16PF, Raymond B. Cattell, had a strong background in the physical sciences, especially chemistry and physics, at a time when the basic elements of the physical world were being discovered, placed in the periodic table, and used as the basis for understanding the fundamental nature of the physical world and for further inquiry. From this background in the physical sciences, Cattell developed the belief that all fields are best understood by first seeking to find the fundamental underlying elements in that domain, and then developing a valid way to measure and research these elements (Cattell, 1965).[40] Personality research author Schuerger stated that: Cattell's goal in creating the 16PF Questionnaire was to provide a thorough, research-based map of normal personality.[41] When Cattell moved from the physical sciences into the field of psychology in the 1920s, he described his disappointment about finding that it consisted largely of a wide array of abstract, unrelated theories and concepts that had little or no scientific bases. He found that most personality theories were based on philosophy and on personal conjecture, or were developed by medical professionals, such as Jean Charcot and Sigmund Freud, who relied on their personal intuition to reconstruct what they felt was going on inside people, based on observing individuals with serious psycho-pathological problems. Cattell (1957)[4] described the concerns he felt as a scientist: "In psychology there is an ocean of spawning intuitions and comfortable assumptions which we share with the layman, and out of which we climb with difficulty to the plateaus of scientific objectivity....Scientific advance hinges on the introduction of measurement to the field under investigation....Psychology has bypassed the necessary descriptive, taxonomic, and metric stages through which all healthy sciences first must pass....If Aristotle and other philosophers could get no further by sheer power of reasoning in two thousand years of observation, it is unlikely that we shall do so now.... For psychology to take its place as an effective science, we must become less concerned with grandiose theory than with establishing, through research, certain basic laws of relationship." (p.3-5) Thus, Cattell's goal in creating the 16PF Questionnaire was to discover the number and nature of the fundamental traits of human personality and to develop a way to measure these dimensions. At the University of London, Cattell worked with Charles Spearman who was developing factor analysis to aid in his quest to discover the basic factors of human ability. Cattell thought that could also be applied to the area of personality. He reasoned that human personality must have basic, underlying, universal dimensions just as the physical world had basic building blocks (like oxygen and hydrogen). He felt that if the basic building blocks of personality were discovered and measured, then human behavior (e.g., creativity, leadership, altruism, or aggression) could become increasingly understandable and predictable. In 1936 Gordon Allport and H.S. Odbert hypothesized that: Those individual differences that are most salient and socially relevant in people's lives will eventually become encoded into their language; the more important such a difference, the more likely is it to become expressed as a single word. This statement has become known as the Lexical Hypothesis, which posits that if there is a word for a trait, it must be a real trait. Allport and Odbert used this hypothesis to identify personality traits by working through two of the most comprehensive dictionaries of the English language available at the time, and extracting 18,000 personality-describing words. From this gigantic list they extracted 4500 personality-describing adjectives which they considered to describe observable and relatively permanent traits. Cattell and his colleagues began a comprehensive program of international research aimed at identifying and mapping out the basic underlying dimensions of personality. Their goal was to systematically measure the widest possible range of personality concepts, in a belief that "all aspects of human personality which are or have been of importance, interest, or utility have already become recorded in the substance of language" (Cattell, R. B., 1943, p. 483).[42] They wanted to include every known personality dimension in their investigation, and thus began with the largest existing compilation of personality traits (Allport and Odbert, 1936).[43] Over time, they used factor analysis to reduce the massive list of traits by analyzing the underlying patterns among them. They studied personality data from different sources (e.g. objective measures of daily behavior, interpersonal ratings, and questionnaire results), and measured these traits in diverse populations, including working adults, university students, and military personnel. (Cattell, 1957, 1973).[4][44] The 16 Personality Factors were identified in 1949 by Raymond Cattell.[45] He believed that in order to adequately map out personality, one had to utilize L-Data (life records or observation), Q data (information from questionnaires), and T-data (information from objective tests).[46] The development of the 16PF Questionnaire, although confusingly named, was an attempt to develop an adequate measure of T-data. Cattell analyzed the list of 4500 adjectives and organized the list of adjectives into fewer than 171 items and asked subjects to rate people whom they knew on each of the adjectives on the list (an example of L-data because the information was gathered from observers). This allowed Cattell to narrow down to 35 terms and factor analysis in 1945, 1947 and 1948 revealed a 11 or 12 factor solution.[47][48][49] In 1949 Cattell found that there were 4 additional factors, which he believed consisted of information that could only be provided through self-rating. This process allowed the use of ratings by observers, questionnaires, and objective measurements of actual behavior.[44][50][51] In 1952 the ILLIAC I became available at the University of Illinois at Urbana-Champaign to be used for factor analysis.[52] Together the original 12 factors and the 4 covert factors made up the original 16 primary personality factors.[53] As the five factor theory gained traction and research on the 16 factors continued, subsequent analysis identified five factors underlying the 16 factors. Cattell called these global factors. The 16PF factorial structure resembles that of Szondi test and the Berufsbilder test (BTT), despite being based on different theories.[54] Because the 16PF dimensions were developed through factor analysis, construct validity is provided by studies that confirm its factor structure. Over several decades of factor-analytic study, Cattell and his colleagues gradually refined and validated their list of underlying source traits. The search resulted in the sixteen unitary traits of the 16PF Questionnaire. These traits have remained the same over the last 50 years of research. In addition, the 16PF Questionnaire traits are part of a multi-variate personality model that provides a broader framework including developmental, environmental, and hereditary patterns of the traits and how they change across the life span (Cattell, 1973, 1979, 1980).[55][56] The validity of the factor structure of the 16PF Questionnaire (the 16 primary factors and 5 global factors) has been supported by more than 60 published studies (Cattell & Krug, 1986; Conn & Rieke, 1994; Hofer and Eber, 2002).[57][58][59] Research has also supported the comprehensiveness of the 16PF traits: all dimensions on other major personality tests (e.g., the NEO Personality Inventory, the California Psychological Inventory, the Personality Research Form, and the Myers-Briggs Type Indicator) have been found to be contained within the 16PF scales in regression and factor-analytic studies (Conn & Rieke, 1994; Cattell, 1996).[34] Since its release in 1949, the 16PF Questionnaire has been revised four times: once in 1956, once in 1962, once in 1968, and the current version was developed in 1993. The US version of the test was also re-standardized in 2002, along with the development of forms for children and teenagers; versions for the UK, Ireland, France and the Netherlands were re-standardised in 2011. Additionally, there is a shortened form available primarily for employee selection and the questionnaire has been adapted into more than 35 languages. The questionnaire has also been validated in a range of international cultures over time[dubious – discuss].[60][61][62] The 16PF was distributed through the Institute for Personality and Ability Testing (IPAT), founded by Cattell and based in Savoy, Illinois.[63] In January 2003, the Institute was purchased by UK private company, OPP Limited, who administered the 16PF worldwide.[63] It later became a subsidiary of Performance Assessment Network (PAN)[64] which in 2017 was acquired by PSI.[65] From the beginning of his research, Cattell found personality traits to have a multi-level, hierarchical structure (Cattell, 1946).[4][66] The first goal of these researchers was to find the most fundamental primary traits of personality. Next they factor-analyzed these numerous primary traits to see if these traits had a structure of their own—i.e. if some of them naturally went together in self-defining, meaningful groupings. They consistently found that the primary traits themselves came together in particular, meaningful groupings to form broader secondary or global traits, each with its own particular focus and function within personality (Cattell & Schuerger, 2003). For example, the first global trait they found was Extraversion-Introversion. It resulted from the natural affinity of five primary traits that defined different reasons for an individual to move toward versus away from other people (see below). They found that there was a natural tendency for these traits to go together in the real world, and to define an important domain of human behavior—social behavior. This global factor Global Extraversion/Introversion (the tendency to move toward versus away from interaction with others) is composed from the following primary traits: Warmth (Factor A): the tendency to move toward others seeking closeness and connection because of genuine feelings of caring, sympathy, and concern (versus the tendency to be reserved and detached, and thus be independent and unemotional). Liveliness (Factor F): the tendency to be high-energy, fun-loving, and carefree, and to spontaneously move towards others in an animated, stimulating manner. Low-scorers tend to be more serious and self-restrained, and to be cautious, unrushed, and judicious. Social Boldness (Factor H): the tendency to seek social interaction in a confident, fearless manner, enjoying challenges, risks, and being the center of attention. Low-scorers tend to be shy and timid, and to be more modest and risk-avoidant. Forthrightness (Factor N): the tendency to want to be known by others—to be open, forthright, and genuine in social situations, and thus to be self-revealing and unguarded. Low-scorers tend to be more private and unself-revealing, and to be harder to get to know. Affiliative (Factor Q2): the tendency to seek companionship and enjoy belonging to and functioning in a group (inclusive, cooperative, good follower, willing to compromise). Low-scorers tend to be more individualistic and self-reliant and to value their autonomy. In a similar manner, these researchers found that four other primary traits consistently merged to define another global factor which they called Receptivity or Openness (versus Tough-Mindedness). This factor was made up of four primary traits that describe different kinds of openness to the world: Openness to sensitive feelings, emotions, intuition, and aesthetic dimensions (Sensitivity – Factor I) Openness to abstract, theoretical ideas, conceptual thinking, and imagination (Abstractedness – Factor M) Openness to free thinking, inquiry, exploration of new approaches, and innovative solutions (Openness-to-Change – Factor Q1) and Openness to people and their feelings (Warmth – Factor A). Another global factor, Self-Controlled (or conscientious) versus Unrestrained, resulted from the natural coming together of four primary factors that define the different ways that human beings manage to control their behavior: Rule-Consciousness (Factor G) involves adopting and conscientiously following society's accepted standards of behavior Perfectionism (Factor Q3) describes a tendency to be self-disciplined, organized, thorough, attentive to detail, and goal-oriented Seriousness (Factor F) involves a tendency to be cautious, reflective, self-restrained, and deliberate in making decisions; and Groundedness (Factor M) involves a tendency to stay focused on concrete, pragmatic, realistic solutions. Because the global factors were developed by factor-analyzing the primary traits, the meanings of the global traits were determined by the primary traits which made them up. In addition, then the global factors provide the overarching, conceptual framework for understanding the meaning and function of each of the primary traits. Thus, the two levels of personality are essentially inter-connected and inter-related. However it is the primary traits that provide a clear definition of the individual's unique personality. Two people might have exactly the same level of Extraversion, but still be quite different from each other. For example, they may both be at the 80% on Extraversion, and both tend to move toward others to the same degree, but they may be doing it for quite different reasons. One person might achieve an 80% on Extraversion by being high on Social Boldness (Factor H: confident, bold, talkative, adventurous, fearless attention-seeking) and on Liveliness (Factor F: high-energy, enthusiastic, fun-loving, impulsive), but Reserved (low on Factor A: detached, cool, unfeeling, objective). This individual would be talkative, bold, and impulsive but not very sensitive to others people's needs or feelings. The second Extravert might be high on Warmth (Factor A: kind, soft-hearted, caring and nurturing), and Group-Oriented (low Factor Q2: companionable, cooperative, and participating), but Shy (low on Factor H: timid, modest, and easily embarrassed). This second Extravert would tend to show quite different social behavior and be caring, considerate, and attentive to others but not forward, bold or loud—and thus have quite a different effect on his/her social environment. Today, the global traits of personality are commonly known as the Big Five. The Big Five traits are most important for getting an abstract, theoretical understanding of the big, overarching domains of personality, and in understanding how different traits of personality relate to each other and how different research findings relate to each other. The big-five are important for understanding and interpreting an individual's personality profile mainly in getting a broad overview of their personality make-up at the highest level of personality organization. However, it is still the scores on the more specific primary traits that define the rich, unique personality make-up of any individual. These more-numerous primary traits have repeatedly been found to be the most powerful in predicting and understanding the complexity of actual daily behavior (Ashton, 1998; Goldberg, 1999; Mershon & Gorsuch, 1988; Paunonen & Ashton, 2001).[67][68][69][70] Minnesota Multiphasic Personality Inventory (MMPI) Neuroticism Extraversion Openness Personality Inventory (NEO-PI) Trait theory ^ Karson, W & J. W O'Dell.(1976). A Guide to the Clinical Use of the 16PF. University of Michigan Press. [page needed] ^ Schuerger, J.M. (March 1995). "Career Assessment and The Sixteen Personality Factor Questionnaire". 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If you still see this message after a few seconds, please reload the page. Retrieved from "