


Understanding Patient Personality in Medical Care: Five-Factor Model



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Personality is the description of an individual's tendencies when acting or reacting to others. Clinicians spontaneously form impressions of a patient's apparent personality yet such unstructured impressions might lead to snap judgments or unhelpful labels. Here we review the evidence-based five-factor model from psychology science for understanding personalities (OCEAN taxonomy). Openness to experience is defined as the general appreciation for a variety of experiences. Conscientiousness is the tendency to exhibit self-discipline. Extraversion is the degree of engagement with the external world. Agreeableness is the general concern for social harmony. Neuroticism is the tendency to experience negative emotions. An awareness of these five dimensions might help clinicians avoid faulty judgments from casual contact. Expert assessment of personality requires extensive training and data, thereby suggesting that clinicians should take a humble view of their own unsophisticated impressions of a patient's personality.

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INTRODUCTION

Delivering person-centered care means respecting that patients have personalities. These personalities influence commitment to preventive care, adherence with medications, willingness to undergo surgery, reliability with follow-up, and clinical outcomes.^{1,2} Adapting to different personalities is a core skill for a practicing clinician.³ General medical literature, however, is relatively silent about the normal range of personality aside from antiquated claims such as the patient's personality being linked to migraines or ulcers.⁴ In turn, an unstructured approach to assessing personality may result in unhelpful one-dimensional labels (e.g., "pleasant" or "difficult") that foster biased intuitions about a patient's temperament and potentially undermine medical care.⁵

Personality is not a standard subject in evidence-based medicine. Personality is almost never the topic of a

randomized controlled trial because it is a stable patient characteristic that cannot be readily modified by a clinician or observed to change in a study. Baseline data on personality are often unavailable for observational research grounded in chart review, clinical registries, or database analysis. The scattered comments about personality that sometime appear in medical records and are potentially available for text mining, furthermore, often say more about the author than the subject.^{6,7} As a consequence, patient self-report questionnaires and observational surveys tend to provide the most common evidence on personality in health care (Table 1).

Psychology science outside of medicine includes a specific branch that explores the domain of personality. The branch has many contradictory theories and findings that fail to replicate; however, one paradigm that has proven reliable is a five-factor model.^{13–15} The specific factors are openness, conscientiousness, extraversion, agreeableness, and neuroticism (OCEAN mnemonic).^{16–18} The core assumption of the OCEAN taxonomy is that a few features are reproducible traits partially predicting a person's behavior over long intervals in similar situations.¹⁹ The purpose of this article is to review the OCEAN taxonomy from a medical perspective so clinicians might have a better understanding of normal personality traits (direct treatment advice is not addressed).

Openness to Experience

Openness to experience is defined as a general appreciation for varied experiences and involves traits such as curiosity and caution. A contrasting example could be characters from the movie "Toy Story" where Buzz Lightyear might be classified as higher than Woody in openness. Some descriptive terms could include wanderlust, curiosity, or open-mindedness. In medicine, openness may possibly contribute to some diseases by increasing a patient's propensity toward risky activities such as engaging in extreme sports, exposure to exotic infections, or eating toxic mushrooms. Openness can sometimes predict a patient's responsiveness to behavioral therapy for bulimia.⁸ Identifying this trait requires watching for signs that the patient enjoys spontaneity, holds unconventional beliefs, or sometimes behaves unpredictably.

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Table 1 Examples of Observational Research on Personality

| Personality trait | General definition | Personal statement * | Medical example† | Clinical application‡ |
|-------------------|--|--------------------------------------|---|--|
| Openness | Appreciation for variety and wanderlust | "I enjoy trying new things" | Levallius et al. <i>Eat Behav.</i> 2019 ⁸ | Cognitive behavioral therapy for bulimia more effective if higher openness |
| Conscientiousness | Temperament of self-discipline and orderliness | "I am always prepared" | Weston et al. <i>Psychol Health Med.</i> 2019 ⁹ | Healthy dietary habits predicted by greater levels of conscientiousness |
| Extraversion | Engagement with the external world and assertiveness | "I talk with many people at parties" | Divinakumar et al. <i>Ind Psychiatry.</i> 2019 ¹⁰ | Nurses with lower levels of burnout more likely to have higher extraversion |
| Agreeableness | Concern for social harmony and politeness | "I show my gratitude" | Goldaracena et al. <i>J Hepatol.</i> 2019 ¹¹ | More liver donations from those candidates higher in agreeableness |
| Neuroticism | Tendency toward negative emotion and apprehension | "I get stressed out easily" | Sharbafchi et al. <i>J Psychosom. Res.</i> 2019 ¹² | Larger likelihood of functional dyspepsia for patients higher in neuroticism |

*Representative single question from longer self-description inventory

†Specific citation to relevant medical publication examining personality trait

‡Finding from observational study correlating personality trait to health outcome

Conscientiousness

Conscientiousness is defined as a tendency to exhibit self-discipline and involves traits such as perfectionism and carelessness. A contrasting example could be television cartoon characters from the show "The Simpsons" where Marg Simpson might be classified higher than Homer Simpson in apparent conscientiousness. Some descriptive terms could include orderliness, self-discipline, and industriousness. In medicine, conscientiousness may possibly contribute to health outcomes by directly increasing a patient's attentiveness with physiotherapy, wound care, regular exercise, or home blood pressure monitoring. Conscientiousness can sometimes predict a patient's adherence to dietary advice.⁹ Identifying conscientiousness requires watching for signs that the patient has impressive focus, high self-efficacy, and a degree of steadfastness.

Extraversion

Extraversion is defined by the degree of engagement with the external world and involves traits such as being outgoing or being solitary. A contrasting example could be Muppets from the show "Sesame Street" where Ernie might be classified as higher than Bert in extraversion. Some descriptive terms could include assertiveness, warmth, and social confidence. In medicine, extraversion may possibly contribute to the risk of communicable diseases by increasing a patient's exposure to hazards spread by person-to-person contact or the power of peer pressure to influence recklessness. Extraversion can sometimes predict how work relationships mitigate burnout in nurses.¹⁰ Identifying extraversion requires watching for signs that the patient likes to talk, enjoys being the center of attention, and feels comfortable interrupting to add to the conversation.

Agreeableness

Agreeableness is defined as a general concern for social harmony including traits such as friendliness and antagonism. A contrasting example could be American presidents where Ronald Reagan might be higher than Donald Trump in apparent agreeableness. Some descriptive terms could include civility, compassion, and tact. In medicine, agreeableness may possibly reduce a patient's risks of injury due to fewer interpersonal conflicts and might also increase the availability of family supports for care. Agreeableness can predict a greater willingness toward organ donation.¹¹ Identifying this trait requires watching for signs the patient has a trusting view of human nature, expresses gracious willingness to compromise, and sometimes ascribes to harmful societal myths (e.g., drinking methanol to fight coronavirus).²⁰

Neuroticism

Neuroticism is defined as a tendency to experience negative emotions and involves traits such as nervousness and confidence. A contrasting example could be android characters from the movie "Star Wars" where C3P0 might be classified as higher than R2D2 in apparent neuroticism. Some descriptive terms could include timidity, pessimism, and volatility. In medicine, this trait may possibly contribute to a patient's negative reaction when learning about rare drug side-effects or when reading an online medical record that shows a marginally abnormal laboratory result. Neuroticism can sometimes predict a patient's tendency to seek care for vague abdominal dyspepsia.¹² Identifying this trait requires watching for signs that the patient is easily irritated, generally apprehensive, and sometimes reluctant to digest negative information.

DISCUSSION

This article reviews the OCEAN taxonomy for understanding patient personalities in medical practice. Typically, a patient's personality cannot be changed by a physician; instead, the taxonomy provides insights for a physician toward adjusting care to fit a patient's personality.^{21, 22} The taxonomy can also provide systematic language for clinicians to communicate nuances to colleagues, recognize traits in a clinical interaction, or build trust by self-disclosure.²³ Precise recommendations on how to treat a patient who has specific traits, however, are beyond the scope of this article because a clinical encounter is an interaction between the personality of the patient, the personality of the responsible clinician, and the personality of other involved individuals.²⁴

A large limitation of the OCEAN taxonomy is that it is a subjective sketch. Similar to the APGAR score for assessing newborns, the OCEAN taxonomy says nothing direct about diagnosis, treatment, or prognosis.²⁵ Unlike the APGAR score, the OCEAN taxonomy is not a single integer and stays as five dimensions instead.²⁶ Both the APGAR and OCEAN taxonomy face criticisms due to cultural differences in defining normal, personal diversity in values, inconsistencies between assessors, and the subjective nature of ratings.^{27, 28} This means the utility of the OCEAN taxonomy is unproven in medicine despite being standard in psychology for assessing personality. For psychopathology, the DSM-V is the standard in psychiatry for testing personality disorders.^{29, 30}

The OCEAN taxonomy has other weaknesses since no reference gold standard is available for personality assessment. The OCEAN taxonomy is based on factor analysis derived from long questionnaires and correlations with subsequent behaviors.^{31–33} Human personality also has endless nuances so five simple factors cannot capture all the diversity such as humility, spirituality, and culture.³⁴ Moreover, the current science is hardly definitive, clinicians foster their own climate for communication, and direct observations can suffer from unconscious bias.^{35–37} The OCEAN taxonomy, therefore, provides a compact evidence-based approach to partially describe a patient's personality and a method for supporting or refuting otherwise undeserved commentary.

A final nuance of personality science is that it is the antithesis of casual impressions arising in daily practice (or inspection of internet searches). Personality assessment is a skill requiring specialized training. A simplified OCEAN inventory tool is 50 questions long, takes 10 min to complete, and is not part of a routine medical encounter despite wide availability.³⁸ Even if elicited, the data would offer little power for predicting actions in new situations.³⁹ The fallibility means clinicians need to be wary of unwarranted impressions based on brief patient contact, unstructured observations, and single indicators. For example, agreeableness can be the most blatant yet most beguiling single trait since the patient may have a different style when you are not present.⁴⁰

In summary, patient personality influences medical outcomes yet intuitive judgments of patient personality may lead to biased judgments that dismiss the patient's perspective and lead to suboptimal medical care. The OCEAN taxonomy is a rigorous model for considering patient personality that offers some structure; however, judgments of personality will remain imprecise and fallible. An awareness of the OCEAN taxonomy may help clinicians appreciate relevant patient traits as well as the limitations of casual intuitive impressions. If personality seems to be a major driver of clinical decision-making, consultation with a psychologist or another clinician may be justified. Ideally, clinical decisions are probably better-grounded in factors other than patient personality.

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Compliance with Ethical Standards:

Conflict of Interest: The authors declare that they do not have a conflict of interest.

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Possible Summary Tweet: Clinicians should take a humble view of their own unsophisticated impressions of a patient's personality, particularly when contrasted with expert assessment based on psychological science.

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