Openness to Experience as a Predictor for Health: A Literature Review

Mario Hasoloan Sebastian^a, Abdurachman^b, Raden Mohammad Budiarto^c

^a mario.hasoloan.sebastian-2019@fk.unair.ac.id

^aFaculty of Medicine, Airlangga University, Surabaya 60132, Indonesia

^bDepartment of Anatomy, Histology, and Pharmacology, Faculty of Medicine, Airlangga University, Surabaya 60132, Indonesia

^cDepartment of Cardiology and Vascular Medicine, Faculty of Medicine, Airlangga University, Surabaya 60132, Indonesia

Abstract

Personality can be closely associated with a person's behavior, lifestyle, and stress regulation. These are the factors that can influence the occurrence of many chronic diseases, therefore they are very important in a person's physical health. Based on the Big Five Personality, the nature of human psychology can be explained in five factors. One of those factors, which is also the broadest yet least understood, is openness to experience. This article aims to review previous studies discussing about the role of openness to experience in a person's physical health and well-being.

Keywords: openness to experience, health, Big Five Personality

1. Introduction

Human personality has been a subject of interest among researchers for a long time. Previous studies showed that personality does not only influence a person's psychology or mental well-being, but it also plays a significant role in their physical health. It has been widely known that personality influences a person's physical health mainly through their health behaviors and response to stress.

Involvement in risky health behaviors is one of the many links between personality and health. People with certain patterns of personality tend to participate more in high-risk behaviors such as smoking, substance use, and unsafe sexual activities, while other patterns tend to have higher health awareness and adherence to medical advices. From time to time, these health behaviors can accumulate into a lifestyle. This is where behavior can be a determining factor in the occurrence of various chronic diseases. (1)

People with different types of personality can also have different ways of responding to stressful events. Personality does not play a significant role in events with a low stress level, but it becomes important in situations where the level of stress is high (1). An individual's mechanism to cope and adapt during high-stress situations can affect their physical health conditions (2). Some patterns of personality show an objectively unfavorable response to stress, leading to several pathological conditions, chronic diseases, and the increase of death risk (3).

A widely known personality indicator, Big Five Personality, is usually used to examine the connections between personality and physical health. This paper reviews several previous studies discussing the role of openness to experience, a trait from Big Five Personality in physical health.



2. Overview of Big Five Personality

Personality experts agree that most of the human psychological nature can be explained using the five following factors: openness to experience, conscientiousness, agreeableness, extraversion, and neuroticism or emotional instability (4). Studies showed that these five factors are inheritable, found in many cultural settings, and can be effectively assessed (5). It is believed that these factors are valid in both normal and abnormal personality conditions and has a basis in human genome, thus can be found universally in the human species (6, 7, 8). Each of these factors will be explained as follows:

2.1. Openness to Experience

As a personality factor, openness to experience has a wide spectrum of related sub-traits. Therefore, among the other factors in Big Five Personality, openness to experience is the least understood. Individuals with a dominant openness to experience has a sensitivity towards beauty and art. These people are also seen as individuals who are easily bored, curious, creative, tolerant, and unconventional. Although being two separate factors, openness to experience is sometimes related with high intellect. With all these traits combined, individuals high in openness to experience are usually the first people willing to learn about new concepts and beliefs, although not always embracing them. The opposite of openness to experience is closedness. (9, 10)

2.2. Conscientiousness

Conscientious individuals usually adhere to social and cultural norms and customs. They are known to be ambitious and goal-oriented. These people are so self-driven that they are able to postpone their own pleasure for the sake of achieving their goal. Conscientiousness is also linked to obedience to rules and laws. On the other hand, the lack of conscientiousness is often associated with flexibility, clumsiness, spontaneity, and untrustworthiness. Conscientious people often tend to have a relatively healthy lifestyle, and are less likely to participate in high-risk health behaviors, mainly due to their effective self-control. (1, 11, 12)

2.3. Agreeableness

Previous studies found that individuals high in agreeableness tend to be liked by the people surrounding them. They are described as kind, mindful, attentive, and homely. They are the people who always try their best to build harmonious relationships with others. A study found that agreeable men tend to have a relatively good physical condition during old age. (13, 14)

2.4. Extraversion

Extroverts favor external activities. They involve themselves in various social events and tend to absorb energy from their surroundings. In several social interactions, extraverted people are seen as the dominant ones. There are different findings regarding the role of extraversion in health. Some sources stated that extroverts have the tendency to participate in risky social events, unsafe sex, alcohol consumption, and unsafe driving. On the other hand, there are other studies that considered the strong social network of extroverts as a protective effect. (1, 15, 16)



2.5. Neuroticism

Studies have found that neuroticism is one of the core factors of negative emotional conditions. People who are dominant in neuroticism usually do not have the ability to handle stress in a favorable manner. Most of the time, neurotic people feel like they were being attacked or threatened, and can become extremely burdened by relatively small and seemingly irrelevant disturbances. Neuroticism is also strongly associated with unstable emotions and pessimism that can lead to high-risk health behaviors. (14, 17, 18)

3. Openness to Experience as a Predictor for Health

In association with health, some sources state that openness to experience is often linked with a high intelligence level, therefore individuals dominant in this trait usually have an adequate knowledge about health and tend to follow health instructions (9). Based on the same argument, people high in openness to experience are also known as individuals who tend to follow a healthy lifestyle rather than an unhealthy one (1). On the other hand, a study revealed that people dominant in this trait are keen to explore new experiences and have an unpredictable behavior (9). Based on those findings, some studies stated that openness to experience is associated with pleasurable yet risky health behaviors (19, 20).

In relation with stress regulation, there are also different findings between studies. Some studies stated that openness to experience provides better resiliency towards stressful events (21, 22), but there are several other findings stating otherwise. Individuals high in openness to experience are known to have flexible emotional conditions, which means they can choose to express their emotions freely and also suppress them. This suppression of emotion is what makes openness to experience is sometimes related with a relatively unfavorable mental status (23).

In relation with diseases, many studies considered openness to experience as a protective factor. A study from 2018 involving 62 women associated openness to experience with better atherosclerotic profiles (22). Ironson and colleagues found a slower disease progression in HIV+ patients who are dominant in this trait (24). A meta-analysis involving 11 studies found that openness to experience is a protective factor from mortality of all causes (25).

On the other hand, several other studies had different findings. Most of them considered openness to experience as a harmful factor due to unpredictable behaviors and emotion suppression associated with this trait. A study by Denollet and Brutsaertm found that openness to experience is related to higher risk of myocardial infarction (23). Another study from 2004 found that people with a dominant openness to experience are more prone to tobacco smoking, which is a lifestyle factor of many chronic diseases (26).

4. Conclusion

There has been different findings regarding the role of openness to experience in physical health. Some studies associated openness to experience with high intelligence and better stress regulation, therefore considering it as a protective factor. Other studies found openness to experience to be harmful because it is related with curiosity to do unhealthy behaviors and tendency to suppress emotions.



References

- 1. Kern, ML & Friedman, HS, 2011, 'Personality and pathways of influence on physical health', Social and Personality Psychology Compass, vol 5(1), pp. 76, 87.
- 2. Carver, CS & Connor-Smith, J, 2010, 'Personality and coping', Annual Review of Psychology, vol 61, pp. 679, 704.
- Graham, JE, Christian, LM, & Kiecolt-Glaser, JK, 2006, 'Stress, age, and immune function: Toward a lifespan approach', Journal of Behavioral Medicine, vol 29, pp. 389, 400.
- 4. Costa, PT, & McCrae, RR, 2012, 'The Five-Factor Model, Five-Factor Theory, and Interpersonal Psychology', Handbook of Interpersonal Psychology: Theory, Research, Assessment, and Therapeutic Interventions, pp. 91, 104.
- McCrae, RR & Costa, PT 2008, 'Empirical and theoretical status of the Five-Factor Model of personality traits', in G Boyle, G Matthews, & D Saklofske, Sage Handbook of Personality Theory and Assessment, vol 1, Los Angeles, Sage, pp. 273–294.
- McCrae, RR, Costa, PT, & Martin, TA, 2005, 'The NEO-PI-3: A more readable Revised NEO Personality Inventory', Journal
 of Personality Assessment, vol 84(3), pp. 261, 270.
- Yamagata, S, Suzuki, A, Ando, J, Ono, Y, Kijima, N, & Yoshimura, K, 'Is the genetic structure of human personality universal? A cross-cultural twin study from North America, Europe, and Asia', Journal of Personality and Social Psychology, vol 90(6), pp. 987, 998.
- 8. Markon, KE, Krueger, RF, & Watson, D, 2005, 'Delineating the structure of normal and abnormal personality: An integrative hierarchical approach', Journal of Personality and Social Psychology, vol 88(1), pp. 139, 157.
- McCrae, RR, 2004, 'Openness to Experience', in C Spielberger, Encyclopedia of Applied Psychology 1st Edition, Elsevier, pp. 707-709
- Salmon, C, 2012, 'Birth Order, Effect on Personality, and Behavior', in VS Ramachandran, Encyclopedia of Human Behavior Second Edition, Academic Press, pp. 353-359
- 11. Roberts, BW, Jackson, JJ, Fayard, JV, Edmonds, G, & Meints, J, 2009, 'Conscientiousness', in MR Leary & RH Hoyle, Handbook of individual differences in social behavior. New York, The Guilford Press, pp. 369–381.
- 12. Toegel, G & Barsoux, JL, 2012, 'How to become a better leader', MIT Sloan Management Review, vol 53(3), pp. 51, 60.
- Graziano, WG & Tobin, RM, 2009, 'Agreeableness', in MR Leary & RH Hoyle, Handbook of individual differences in social behavior, New York, The Guilford Press, pp. 46–61.
- Friedman, HS, Kern, ML, & Reynolds, CA, 2010, 'Personality and health, subjective well-being, and longevity', Journal of Personality, vol 78, pp. 179, 216.
- 15. Laney, M 2002, The Introvert Advantage: How to Thrive in an Extrovert World, New York, Workman Pub, pp. 28-35.
- 16. Friedman, H, & Schustack, M, 2016, Personality: Classic Theories and Modern Research, 6th ed, New York, Pearson Education Inc.
- 17. Widiger, TA, 2009, 'Neuroticism', in MR Leary & RH Hoyle, Handbook of individual differences in social behavior, New York, The Guilford Press, pp. 129–146.
- Suls, J & Bunde, J, 2005, 'Anger, Anxiety, and Depression as Risk Factors for Cardiovascular Disease: The Problems and Implications of Overlapping Affective Dispositions.', Psychological Bulletin, vol 131(2).
- 19. Jerram, KL & Coleman, PG, 1999, 'The big five personality traits and reporting of health problems and health behavior in old age', British Journal of Health Psychology, vol 4(2), pp. 181-192.
- 20. Salovey, P, Rothman, AJ, Detweiler, JB, & Steward, WT, 2000, 'Emotional states and physical health', American psychologist, vol 55(1), p. 110.
- 21. Williams, PG, Rau, HK, Cribbet, MR, & Gunn, HE, 2009, 'Openness to experience and stress regulation.', Journal of Research in Personality, vol 43(5), pp. 777-784.
- 22. O'Suilleabhain, PS, Howard, S, Hughes, BM, 2018, 'Openness to experience and stress responsivity: An examination of cardiovascular and underlying hemodynamic trajectories within an acute stress exposure', PloS one, vol 13(6).
- 23. Denollet, J & Brutsaertm, DL, 1998, 'Personality, Disease Severity, and the Risk of Long-term Cardiac Events in Patients with a Decreased Ejection Fraction After Myocardial Infarction', Circulation, vol 97, pp. 167-173.
- 24. Ironson, GH, O'Cleirigh, C, Schneiderman, N, Weiss, A, & Costa Jr., PT, 2008, 'Personality and HIV disease progression: Role of NEO-PI-R openness, extraversion, and profiles of engagement', Psychosomatic medicine, vol 70(2), p. 245.
- 25. Ferguson, E & Bibby, PA, 2012, 'Openness to experience and all-cause mortality: A meta analysis and requivalent from risk ratios and odds ratios', British journal of health psychology, vol 17(1), pp. 85-102.
- 26. Terraciano, A & Costa Jr., PT, 2004, 'Smoking and the Five-Factor Model of Personality', Addiction, vol 99(4), pp. 472-481.