Go Ahead, Change My Mind:

Trait Receptiveness, Stress, and Health Outcomes

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“Seeking means: to have a goal; but finding means: to be free, to be receptive, to have no goal.

-Herman Hesse
Research Project & Background

Chances are, you have encountered some people who seem to be more receptive to new information than others. For example, you might have a politically liberal mother who refuses to listen to the arguments made by the conservative politicians in her area; or, on the other hand, a friend who is a vegetarian but is always willing to thoughtfully consider his omnivorous friends’ opinions on the meat industry. Psychological receptiveness, which has been defined as “a non-judgmental psychological stance characterized by openness to opposing views and a willingness to engage in contact with holders of those views” (Chen, Minson, Schöne, & Heinrichs, 2013), is an essential ingredient in any functional democratic society. Furthermore, on a more individual level, people who often become frustrated, angry, or stressed when hearing opposing viewpoints may experience physical consequences. Research has linked chronic stress to many poor health outcomes such as cardiovascular disease (Steptoe & Kivimäki, 2013) and lowered immune response (Miller, Cohen, & Ritchey, 2002); therefore, people who are dispositionally less receptive may be at a greater risk for health issues.

The study and measurement of receptiveness as a trait or personality variable, as well as its potential effects on stress reactivity and health, has heretofore been given very little attention in psychological research. However, preliminary studies on receptiveness have garnered some exciting and unexpected findings. For example, a recent study conducted by my supervisor, Dr. Frances Chen, and her collaborators found that posing “elaboration questions” (questions designed to convey interest and solicit additional information) to a debate partner who held an opposing opinion increased individual receptiveness to that opposing opinion (Chen, Minson, & Tormala, 2010). A subsequent study by Dr. Chen and her collaborators led to the rather counterintuitive finding that eye contact between a listener and a speaker who hold opposing...
views reduces the listener’s receptiveness to the speaker’s position (Chen et al., 2013). Other research has shown that receptiveness to advice is affected by characteristics of the advice-giver (Feng & MacGeorge, 2006), and that people’s willingness to accept unpleasant information can be increased by affirming their sense of self-worth (Good, Harris, Jessop, & Abraham, 2014). These findings suggest that receptiveness can be influenced by many aspects of the situation and environment.

Value of Research Project

Importantly for our research, the possibility that people’s stable levels of receptiveness could help explain individual differences in physiological stress responses and health outcomes has not yet been explored. Other personality traits such as anger, hostility, fatalism, and emotional expression have been linked to both positive and negative health outcomes (Scheier & Bridges, 1995), and openness to experience has been shown to affect cortisol response to stress (Oswald et al., 2006) as well as appraisals of stressful experiences and performance while under stress (Schneider, Rench, Lyons, & Riffle, 2011). Thus, it is clear that information on the roles that individual differences in receptiveness play in stress and health would be an extremely valuable addition to the psychological literature.

Methods

The project that I have been working on over the last several months examines whether generally receptive and unreceptive people demonstrate different physiological responses during the potentially stressful or upsetting situation of hearing opposing viewpoints on controversial topics. Dr. Chen has developed and validated a scale to measure trait receptiveness, containing questions such as “I am generally curious to find out why other people have different opinions than I do,” and “I value interactions with people who hold strong views opposite to mine”. One
hundred undergraduate student participants will complete this receptiveness measure online before coming in for a lab visit. During the lab visit, participants will complete a short questionnaire assessing their attitudes on various controversial topics such as marijuana legalization and physician-assisted suicide. Next, each participant will watch several pre-recorded videos of speakers expressing controversial opinions that oppose the participant’s own reported views. While watching these videos, each participant will wear a wireless heart rate monitor, and will also provide saliva samples throughout the session so that we can later measure levels of the hormone cortisol. Heart rate and cortisol are two significant physiological markers of the stress response that people can experience in social situations that involve conflict, so this data will be of great help in illuminating the way that trait receptiveness is related to stress reactivity (and, by extension, may influence health outcomes in the long term). We expect that participants who score higher in trait receptiveness will show less stress reactivity (i.e. show smaller increases in heart rate and cortisol levels) while listening to information that they disagree with.

Research Experience and Study Development

I have had the privilege to work on an AURA grant in Dr. Chen’s lab since May 2014, and will continue to do so until December 2014. During my time in the lab, I have aided in the development of many key aspects of and materials for the project described above. I spent much of the summer preparing carefully controlled videorecorded speeches that will allow important aspects of the speech presentations (such as the exact content of the speeches, the speakers’ tone of voice and facial expressions) to be kept constant across all participants in the upcoming study while still simulating everyday situations such as watching a televised political debate. I first selected six potentially controversial topics and phrased them as concrete statements such as
“Everyone should follow a vegetarian diet” and “The government should be able to monitor its citizens’ Internet activity for security reasons”). These topics were chosen for their polarizing nature and for their perceived capacity to elicit a strong emotional response in our participants.

Next, I conducted extensive research on commonly cited arguments for and against each of the above statements and composed two-minute “pro” and “con” speeches for each one. I recruited six student actors (one for each topic) to read these speeches on camera, and then spent about an hour filming each actor in the lab. After editing the video footage, I ended up with twenty-four high-quality videos of convincing actors expressing attitudes on controversial socio-political topics. These videos will be used in the upcoming study.

Although I am nearing the end of my time as an AURA student, I am very happy to be able to say that my work on this project is only just beginning. Next semester, I will be working under Dr. Chen’s supervision on a Directed Studies project investigating the health outcomes of trait receptiveness. As part of my continuing AURA-funded research on this project and also in preparation for this Directed Studies project, I am currently conducting a literature review on personality traits and their associated health outcomes. Next term, the new receptiveness scale will be included in a large ongoing longitudinal study tracking the health of university students through measures such as BMI, blood pressure, and heart rate. I will use the obtained data to analyze trait receptiveness’ relationship to a variety of health outcomes.

Learning Outcomes & Conclusions

Receiving an AURA grant to work in Dr. Chen’s Social Health Lab has been an incredibly rewarding experience. I have always wanted to take on a leadership role in a psychology lab, and this opportunity allowed me not only to do just that but also to work in close collaboration with Dr. Chen. In all of our interactions, she has treated me like a respected
collaborator and made me feel as though my opinions and ideas were important. I learned to feel comfortable being in control of a project; consequently, I feel empowered to pursue future research opportunities and perhaps even a career of my own in psychological research.

This process has also opened my eyes to the importance of cooperative communication in research. Dr. Chen was in constant contact with her collaborators both at UBC and around the world throughout the development of this project. The degree of humbleness and, fittingly, receptiveness to each other’s ideas (as well as to my ideas) that both Dr. Chen and her collaborators displayed really changed my preconceived notions of research as a principally self-directed pursuit.

I believe that this research is critically important, as many of the gravest problems that plague our society today stem from an inability to reconcile different viewpoints. For example, a better understanding of receptiveness could help world leaders resolve global conflicts without using military weapons, or aid doctors and health psychologists in the development of personality-specific health promotion programs. The implications of receptiveness research are essentially limitless.

Before working as an AURA student, I always thought that the surfaces of psychological constructs and scientific mechanisms could only be scraped at, discovered, and defined by people with Ph.Ds. As a result of my experiences in the Social Health Lab, I have made the happy discovery that this is not always the case. I am extremely grateful to Dr. Chen for her kind mentorship and her willingness to take a chance on a student from her second-year statistics class. I will never forget this opportunity, and I hope that it marks the first of many exciting research experiences for me.
References


