Depression and Empathy

When thinking of depression, it is common to picture the isolation in a person's life, the hopelessness and struggle. While this image is accurate in a sense, depression is not an illness that solely affects how the depressed interact with themselves, but also how they interact with others. This is where empathy comes into play; it is the way humans relate to one another's emotions. It is evident that there is a connection between a depressed individual and the way they empathize with others, and even though there are regions of the brain like the somatosensory cortex that could hint at a reason, there are not many studies to explain how. An exploration into the link between depression and empathy may serve as a jumping point into a different view of depression. Therefore, we should research how adult patients with Major Depressive Disorder (MDD) perceive other people's displeasure, which would serve as an observation on pain empathy through short term electrical pain tasks.

Through my research I found that the relationship between a patient with depression and their empathy is much more complex than it seems. While it is untrue that people who are depressed are apathetic to others' feelings, there are multiple factors that play into this myth. Overall, studies have concluded that MDD patients find it difficult to understand others' emotions, correlating with deficits in their emotional conflict resolution. For instance, in a 2016 study by Hoffman et al., MDD patients received tactile stimulation and were told to rate their own and their partner's feelings of pleasantness. Hoffman et al. discovered that there was an increase in the egocentric bias presented by the MDD patients when theirs and their partner's emotional states differed. Because the emotional states conflicted, the MDD patient was more likely to focus on their own emotional state rather than empathizing with their partner (Hoffman et al, 2016). MDD patients often have higher empathic distress, meaning the brain performs in a self-preservative way by distancing itself from negative situations, so it makes sense that a deficit in emotional conflict resolution is the reason behind an egocentric bias.

Similarly, a more in-depth reasoning for the egocentric bias in MDD patients was conducted by Kropf et al. in 2019 when they researched the somatosensory cortex. Since it has been found that people with mental illness suffer changes in their somatosensory cortex, Kropf et al. inspected the neurons in that region to explore the relationship between depression, pain empathy, and emotional regulation. Through the study, Kropf et al. saw that the activity in the somatosensory cortex increases as the "intensity of the painful stimulus observed increases, and decreases when non-painful stimulation is observed" (Kropf et al.). Consequently, Kropf et al. concluded that an impairment in the somatosensory cortices lessened the brain's understanding of other people's emotions. Because the somatosensory cortex affects how people recognize emotion, it can be inferred that MDD patients would often experience trouble understanding and then empathizing with other people's pain.

However, an interesting observation that a recent study has made cannot be ignored. Rutgen et al. (2019) claimed that previous research conducted on depression and empathy is not very helpful because there was not a control on patients on and off medication, thus making it impossible to differentiate whether the effects on empathy came from the depression itself or from the antidepressants. Because of this, future research should study three different groups: MDD patients on medication, without medication, and healthy controls.

Based on my research, if patients with Major Depressive Disorder were to experience pain stimuli alongside other subjects, they would have trouble recognizing and empathizing with other subjects' displeasure. It is common knowledge that MDD patients, to a certain degree, will detach from the pain others feel. Yet, there aren't many studies to showcase how the egocentric bias affects MDD patient's actions. With this framework in mind, a future study could outline how MDD patients with an impaired somatosensory cortex, MDD patients without an impaired somatosensory cortex, and a healthy group without MDD all behave when someone else is in need. This study could observe how MDD patients' empathic judgements are affected by the somatosensory cortex in comparison to individuals without depression. The results would give great insight on how depression and empathy go hand in hand with the actions humans take towards others.

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