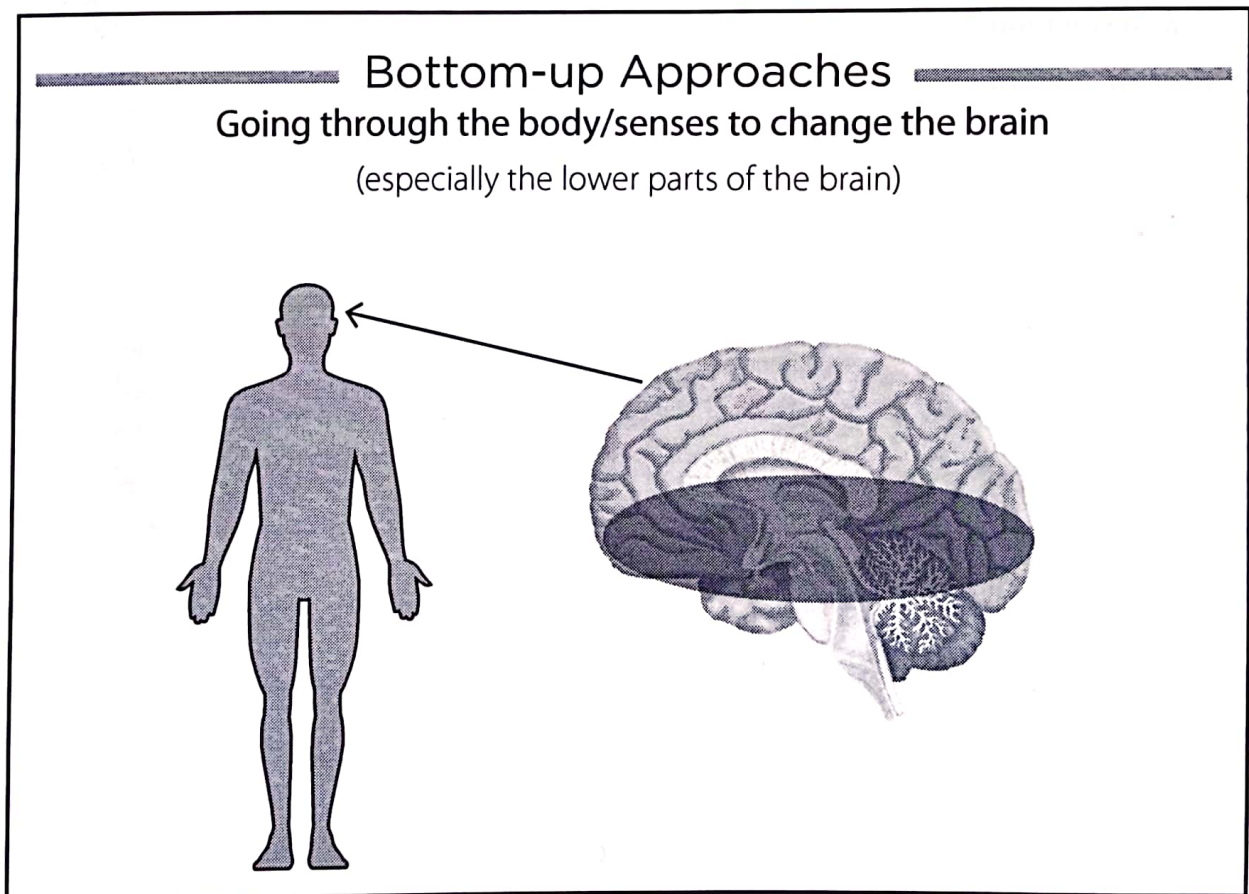


# Change the Brain Bottom-Up

Bottom-up approaches produce brain change by working through the body. The body and the brain are connected by the spinal cord, which transmits information from the body to the brain, and vice versa. It is possible to alter the brain by sending signals through the body for the brain to process. Bottom-up, body-based techniques work best for changing the lower parts of the brain, such as the fear brain, which are outside of conscious awareness and are difficult to control top-down (with your mind).

For example, if you have ever noticed how challenging it is to simply stop feeling anxious by telling yourself, "Stop it!" you know how difficult it can be to down-regulate the fear center of the brain with your thoughts. A more effective way to regulate the lower areas of the brain is to work from the other direction, bottom-up, as opposed to top-down.



# Your Brain on Bottom-Up Techniques

Bottom-up techniques may change the brain in **three** ways:

1. **Less activation in the fear center (amygdala) of the brain:**
  - Reduces how strongly you react to trauma triggers
  - Reduces the stress response and increases the relaxation response
  - Decreases hypervigilance and the feeling of "always being on guard"
2. **More regulated activation of the interoception center (insula) of the brain:**
  - Reduces how strongly you react to trauma triggers
  - Reduces anger and other emotional outbursts
  - Reduces dissociation
  - Reduces numbing
3. **More activation of the memory center (hippocampus) of the brain:**
  - Increases feeling of safety
  - Reduces fear, especially when faced with trauma triggers
  - Increases ability to cope with negative memories
  - Helps individuals experience traumatic events as occurring in the past (in other words, trauma memories become "time stamped")

