Pain Perception is complex experience that is not simply dependent on physical injury

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Author Note

Pain Perception

There are three pathways for pain that are carried by three orders of neurons including first, second and third-order neurons. Neurons of first-order are pseudounipolar having cell bodies in root dorsal sganglion. These neurons have their axon split into two parts, one extended to the peripheries and other in the central spinal cord or brain stem. Similarly, the 2nd-order neurons have their cell bodies in the Rexed laminae or nuclei of nerves of the brain stem that is cranial nerves. Third-order neurons have also had their cell bodies that lie in the thalamus.

# Biological Mechanism

The biological mechanism involves the process of pain signals which is initiated in the hand would be terminated to the designated area of the cortex for the sensations. Nerve endings are free in the form of nociceptors which activated by the stimulus. For example, one slams a door on one's finger then nerve endings at finger will open the nerve gate to receive the impulse to the axons and then to the brain stem. This received axon forms a synapse that ends up in the brain. The signal would be transferred from the brain stem to the thalamus. The information would be processed and the sensory cortex will take the information and interprets it as pain (Schumacher & Hogans, 2019). The pain signal would be directed to the motor cortex down the brain stem. In turn, motor neurons will send the information to the particular part to respond to the agony by shaking the finger with a scream.

# Different Factors and Situation for Pain Perception

Pain stimulus can be of various types that are fast or slow. The signal of pain can move along various paths in the brain and maybe subjective by endorphins that present in the regions of brain (Schumacher & Hogans, 2019). For example, in periods of strain, a descendent message from the brain mat amplifies the signals of pain at the nerve gate as it transfers towards the brain stem. Similarly, stimulus from the brain can also shut the path of the nerve gate stopping the sign from accomplishing the signals to the brain and to experience it as pain.

The conditions, situations, and events that open the nerve gate and can cause severe misery include injury, prolonged narcotic use and reduced mechanics of body (Schumacher & Hogans, 2019). Cognitive conditions that focus on prolonged pain to have distractions or negative thoughts would also open the nerve gate. Emotional elements such as depression and frustration and hopelessness can also open nerve gates (Schumacher & Hogans, 2019). The brain itself does not feel pain as it lacks nociceptors.

Conditions, where pain insight is larger, are undesirable emotional conditions that exaggerate pain strength; pain obnoxiousness. This condition amplifies pain-associated cardiovascular autonomic reactions, though decreasing the sense of apparently controlled pathway over pain.

Situations, where the pain is professed when there is no bodily injury, are very rare as the nociceptors are very sensitive in sensations. For example, attentional interruption decreases pain-related initiations in somatosensory thalamus, cortices, thalamus, and insula (Schumacher & Hogans, 2019). Other conditions include the use of pain killers or anti-depressants that hide the sites that trigger the sensations of pain and ultimately pain would not be felt by the body.

Situations, where the place of damage and the site of apparent pain fluctuate, include the prolonged pain due to emotional or psychological factors (Huang et al., 2019). The body feels pain more than it is perceived by the situation Such as depression or stress may result in less pain in the brain stem but unfortunately, pain receptors intensify the pain feelings. Therefore, pain sensations are a complex biological process that primarily not dependent on any physical injury.

# References

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