

# Experience- dependent plasticity

Psychology



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Experience-Dependent Plasticity For my sensation/perception phenomenon, this week I chose experience-dependent plasticity that is found in Chapter 4. The experience-dependent plasticity takes place when the brain's ability to react to specific stimuli is shaped by experience. For example, vision rising kittens in an environment consisting entirely of vertical lines causes the kitten's brain to contain neurons that respond only to verticals. Moreover, hearing through training owl monkeys to discriminate between two different frequencies increase the space in the cortex devoted to those frequencies. The effect of experience-dependent plasticity in speech perception is illustrated by how sounds in the infants are exposed to influence their ability to hear certain sounds when they are older as well as how their brain responds to these sounds. It begins by considering what very young infants can perceive and then consider what happens when they get older.

Infants in all cultures can tell the difference between sounds that create all of the speech sounds used in the world's languages; however, it is noted that by the age of one, they have lost the ability to distinguish between some of these sounds (Jusczyk, 2000). The classic example of this can be traced from the phenomenon provided by Japanese children and adult transition. Six-month-old Japanese children can tell the difference between the /r/ and /l/ used in American English just as well as American children. However, by 12 months, Japanese children can no longer distinguish such differences; hence, leading to difficulty distinguishing between words such as lent and rent. Over the same period, American children become better at telling the difference between these two sounds. This kind of Early-life trauma affects future self-esteem and social awareness (Nelson, De, and Thomas, 2006). It negatively <https://assignbuster.com/experience-dependent-plasticity/>

influences brain structure and its function leading to developmental or relational trauma thereby affecting future self-worth and communal awareness; learn agility and physical health (Czigler, and Winkler, 2010).

#### Reference

Czigler, I., & Winkler, I. (2010). Unconscious memory representations in perception: Processes and mechanisms in the brain. Amsterdam: John Benjamins Pub.

Jusczyk, P. W. (2000). The discovery of spoken language. Cambridge, Mass. [u. a.: MIT Press.

Nelson, C. A., De, H. M., & Thomas, K. M. (2006). Neuroscience of cognitive development: The role of experience and the developing brain. Hoboken, N. J: Wiley