

Our own status affects the way our brains respond to others

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Our own social status influences the way our brains respond to others of higher or lower rank, according to a new study reported online on April 28 in *Current Biology*. People of higher subjective socioeconomic status show greater brain activity in response to other high-ranked individuals, while those with lower status have a greater response to other low-status individuals.

These differences register in a key component of the brain's value system, a region known as the ventral striatum.

"The way we interact with and behave around other people is often determined by their social status relative to our own, and therefore information regarding social status is very valuable to us," said Caroline Zink of the National Institute of Mental Health. "Interestingly, the value we assign to information about someone's particular status seems to depend on our own status."

The findings in humans are largely consistent with earlier observations in [monkeys](#). Researchers had shown that monkeys direct their attention to others of higher or lower status depending on their own position in the troop.

Zink's team wanted to know whether this principle holds in humans. They used [functional magnetic resonance imaging](#) (fMRI) to measure [brain activity](#) in the ventral striatum while research participants of varying social status were shown information about someone of

relatively higher status and information about someone of relatively lower status. Those studies showed that the brain's response to status cues varied depending on an individual's own subjective status.

"The value that we place on particular status-related information—evident by the extent our brain's value centers are activated—is not the same for everyone and is influenced, at least in part, by our own subjective socioeconomic status," Zink said.

The findings surely have important implications for our social behavior and social lives, she added. After all, humans, like all social animals, determine appropriate actions toward others based on an assessment of their social status.

Zink said that socioeconomic status isn't based solely on money but can also include factors such as accomplishments and habits. Socioeconomic status is also just one hierarchical system among many that humans belong to and that can influence our everyday interactions.

And of course, our [socioeconomic status](#) isn't fixed; it shifts over time, for better or for worse. Exactly how the [brain](#) will respond to such changes is an intriguing question for future study.

"As humans, we have the capacity to assess our surroundings and context to determine appropriate feelings and behavior," Zink said. "We, and our brain's activity, are not static and can adjust depending on the circumstances. As one's status changes, I would expect that the value we place on status-related information from others and corresponding brain activity in the ventral striatum would also change."

More information: Ly et al.: "Subjective Socioeconomic Status Predicts Human Ventral Striatal Responses to Social Status Information. *Current Biology* - May 10, 2011 print issue

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