

# February Newsletter



## High IQ may be linked to information processing

Is there a single way to predict whether someone has a high IQ? Maybe: according to a new study in the journal *Current Biology*, high IQ is correlated with ability to process important information while ignoring the unimportant.



## Processing speed and IQ

Many scientists have suggested that high IQ is linked to processing speed, or how quickly and accurately a person can understand incoming information. This information can come from a wide range of sensory inputs, including sounds, sights, and physical sensations. Responding to a tap on your shoulder or computing a difficult math problem both rely on processing speed, among other cognitive abilities.

But previous studies found only moderate links between IQ and processing speed. The University of Rochester researchers who conducted this new study wondered whether there was a missing part of this equation: what if the ability to ignore certain information is just as important as the speed it takes to process information.

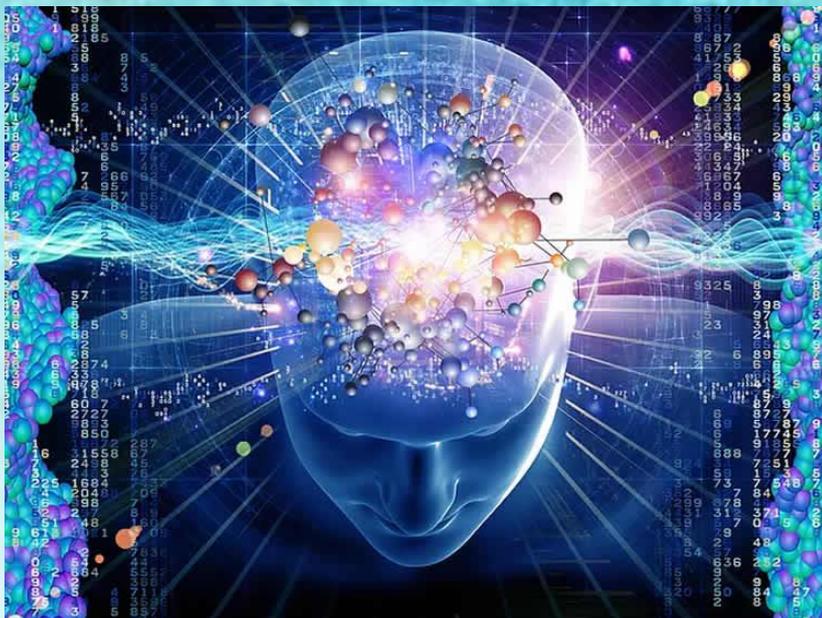
First, researchers set out to determine how quickly the study's 53 participants processed different types of visual information. A series of shapes passed across a screen, and participants were asked to identify how the shapes had moved — for example top-to-bottom or left-to-right. The shapes could be large or small.

Counterintuitively, participants generally took longer to process large shapes than small shapes. This phenomenon, called spatial suppression, originates from a natural inclination to pay less attention to large background movements — like ignoring the lion on the horizon to focus on the lion in front of you.

Each participant received a Suppression Index score (SI) based on the difference between their response time to the small moving shape compared to the large moving shape.

Participants also took a version of the Wechsler Adult Intelligence Scale (WAIS), one of the most extensively studied IQ tests in existence.

Analysis revealed a strong correlation between IQ score and SI score — meaning that people with higher IQs were better at processing small movements and worse at processing large movements.



## An efficient brain ignores the nonessential



This study's findings make plenty of sense in real-world scenarios: most of the time, the environment rewards a myopic focus. When you drive, it's the cars and pedestrians close by that command the bulk of your attention. Events happening in the background — buildings you pass, objects on the side of the road, people moving on the sidewalk — are secondary. The brain is complex and sometimes perplexing, so it's always gratifying to see researchers begin to understand one of its mysteries. This University of Rochester study sheds new light on our understanding of what cognitive processes may be related to IQ, and opens the door for further investigations of processing

speed and spatial suppression. Next time you're out in the world, pause for a moment and see if you find yourself relying on spatial suppression to focus on what's important

To ALL the graduates!  
We are so proud of  
you!

You did it!  
*Congratulations*



“Study without desire  
spoils the memory,  
and it retains nothing  
that it takes in.”

Leonardo da Vinci