Navy SEALs Recognize Anger More Quickly

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The brains of elite soldiers can respond faster to signs of anger than normal, which could help them detect threats and make the difference between life and death when under fire.

The differences in the brains of those who excel in extreme circumstances are poorly understood. Such research might help improve military performance, explained neuroscientist Alan Simmons at the University of California at San Diego.

To investigate the brains of elite soldiers who face extreme circumstances all the time, psychiatrist Martin Paulus with Simmons and their colleagues scanned the brains of 11 off-duty members of the elite Navy SEALs (SEa, Air, and Land special forces) and 23 ordinary healthy men while they viewed faces that displayed either angry, fearful or happy expressions.

"Hopefully this research will help improve the understanding what makes SEALs so special," Simmons said. "They are highly resilient individuals, and if we could help other soldiers to become more resilient to the effects of stress, then that would be a very gratifying result."

The scientists found the insula, a region deep within the brain, activated more strongly in Navy SEALs when they saw angry faces than when compared to ordinary men.

"The insula is important for understanding your body sensations, or gut feelings," Simmons explained. "This suggests that when they see an angry face they do a 'gut check.' This may be because angry faces, but not fearful and happy faces, do require immediate attention for safety in combat."

When it came to happy or fearful faces, the brains of Navy SEALs reacted more slowly than non-SEALS.

"Slower reaction time can indicate reduced attention, increased contemplation, or distracted or multiple processing," Simmons said. "Given the SEALs' capacity to excel in performance-related tasks, it may be most probable that they decide not to exert much effort in responding to faces that are not giving as important information."

Regardless of the emotion they viewed, the SEALs had greater activation on the right side of the
insula and reduced activation of its left side, the exact opposite seen in the ordinary men.

"Several researchers have proposed that the right insula is related to action while the left insula is related to maternal and calming responses," Simmons said. "The greater activation on the right side suggests selective attention to threat."

The SEALs the researchers worked with on this study "were amazing individuals," Simmons recalled. "Their capacity to excel mentally and physically is widely known. These findings suggest that this may be achieved not by greater effort but by reducing effort when not needed and increasing it in relevant conditions. They appear to be able to appropriately tune their behavior to the environment."

It remains unclear whether this ability SEALs demonstrate is something they acquired during training or if it existed beforehand. Future research could test soldiers before or after training.

The study, funded by the National Science Foundation and private institutions, is detailed online April 14 in the journal PLoS ONE.