The party in your brain

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A team of political scientists and neuroscientists has shown that liberals and conservatives use different parts of the brain when they make risky decisions, and these regions can be used to predict which political party a person prefers. The new study suggests that while genetics or parental influence may play a significant role, being a Republican or Democrat changes how the brain functions.

Dr. Darren Schreiber, a researcher in neuropolitics at the University of Exeter, has been working in collaboration with colleagues at the University of California, San Diego on research that explores the differences in the way the brain functions in American liberals and conservatives. The findings are published in the journal PLOS ONE on 13 February.

In a prior experiment, participants had their brain activity measured as they played a simple gambling game. Dr. Schreiber and his UC San Diego collaborators were able to look up the political party registration of the participants in public records. Using this new analysis of 82 people who performed the gambling task, the academics showed that Republicans and Democrats do not differ in the risks they take. However, there were striking differences in the participants' brain activity during the risk-taking task.

Democrats showed significantly greater activity in the left insula, a region associated with social and self-awareness. Meanwhile Republicans showed significantly greater activity in the right amygdala, a region involved in the body's fight-or-flight system. These results

suggest that liberals and conservatives engage different cognitive processes when they think about risk.

In fact, brain activity in these two regions alone can be used to predict whether a person is a Democrat or Republican with 82.9% accuracy. By comparison, the longstanding traditional model in political science, which uses the party affiliation of a person's mother and father to predict the child's affiliation, is only accurate about 69.5% of the time. And another model based on the differences in brain structure distinguishes liberals from conservatives with only 71.6% accuracy.

The model also outperforms models based on differences in genes. Dr. Schreiber said: "Although genetics have been shown to contribute to differences in political ideology and strength of party politics, the portion of variation in political affiliation explained by activity in the amygdala and insula is significantly larger, suggesting that affiliating with a political party and engaging in a partisan environment may alter the brain, above and beyond the effect of heredity."

These results may pave the way for new research on voter behaviour, yielding better understanding of the differences in how liberals and conservatives think. According to Dr. Schreiber: "The ability to accurately predict party politics using only brain activity while gambling suggests that investigating basic neural differences between voters may provide us with more powerful insights than the traditional tools of political science."

Provided by University of Exeter