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Heads or tails: The Royal Statistical Society puts the statistical skills of MPs to the test

A survey by the Royal Statistical Society has found that around half (52 per cent) of MPs were able to answer a simple probability question correctly.

As politicians over the course of the pandemic have dealt with a barrage of statistics, the Royal Statistical Society (RSS) decided to put their statistical skills to the test. A total of 101 MPs were surveyed by the learned society and asked the question: if you toss a coin twice, what is the probability of getting two heads? Just over half, 52 per cent, of MPs gave the correct answer of 25 per cent.

This is a likely improvement from when the Royal Statistical Society polled MPs with the same question ten years ago, when 40 per cent of MPs gave the correct answer.

In this latest survey conducted by Savanta ComRes on behalf of the RSS, 32 per cent of MPs gave the incorrect answer of 50 per cent, compared to 45 per cent of MPs in the 2011 survey.

Of those asked in the most recent survey, there was a modest estimated difference between MPs from the two main parties. In the survey, 50 per cent of Conservative MPs gave the correct answer, while 53 per cent of Labour MPs were right.

MPs for the Midlands and the North had the highest estimated share, with 66 per cent and 64 per cent respectively answering the question correctly.

In the sample of 101 MPs, politicians who have been in power for longer performed better than those elected more recently. Those who had started in office between 2001 and 2009 performed the best, with 68 per cent giving the correct answer, compared to 38 per cent of MPs elected in 2019.

The politicians were also tested on their knowledge of averages and were asked: if you roll a six-sided die, if the rolls are 1,3,4,1 and 6, what are the mean and mode values? Around two-thirds, 64 per cent, of respondents were able to identify that the mean value was three, while 63 per cent gave the correct answer of one for the mode.

With lateral flow tests now a regular occurrence for many, the RSS also wanted to gain a view on MPs knowledge of how the results from them should be viewed – a question that tests the understanding of what statisticians call Bayesian statistics. Those surveyed were asked: suppose there was a diagnostic test for a virus. The false-positive rate (the proportion of people without the virus who get a positive result) is one in 1,000. You have taken the test and tested positive. What is the probability that you have the virus? Of the politicians surveyed, 16 per cent gave the correct answer that there was not enough information to know.

Stian Westlake, Chief Executive of the Royal Statistical Society, said: “Statistical skills are vital for good decision-making and effective scrutiny. While we’re pleased to see that it looks like MPs’ knowledge in this area has improved, the survey results highlight that more needs to be done to ensure our elected representatives have the statistical skills needed for the job.”

Notes to editors:

- The Royal Statistical Society (RSS), founded in 1834, is one of the world's most distinguished and renowned statistical societies. It is a learned society for statistics, a professional body for statisticians and a charity which promotes statistics, data and evidence for the public good. Today the RSS has around 10,000 members around the world. rss.org.uk @RoyalStatSoc
- Surveys provide estimates, and the true values could somewhat higher or lower. For further context on the survey results, read this blog by RSS Statistical Ambassador, Dr Anthony Masters: https://rss.org.uk/RSS/media/File-library/News/2022/Behind-the-Numbers-RSS-survey-of-MPs.pdf
- Savanta ComRes surveyed 101 MPs online between 17th November 2021 and 18th January 2022. Data are representative of MPs in the House of Commons by party and region. Data tables are available here: https://comresglobal.com/our-work/poll-archive/
- The 2011 MP survey, conducted by Ipsos can be found here: https://www.ipsos.com/en-uk/use-data-and-statistics