Analysis Report

This report is structured as follows.

Contents

Descriptive Statistics

The analysis started by filtering the data for individuals who answered wave 22 and wave 25 of the survey, which narrowed the sample from 111,632 to 16,924. This subset was then filtered for individuals residing on any of the six constituencies under study, which further reduced the sample to 165. The final sample was composed by 148 individuals, after people who answered 'Don't Know' were excluded.

The sample consists of 148 participants distributed across six constituencies. Gateshead constitutes 19.6% (n = 29) of the sample, Newcastle upon Tyne Central accounts for 11.5% (n = 17), Newcastle upon Tyne East represents 12.2% (n = 18), Newcastle upon Tyne North makes up 13.5% (n = 20), North Tyneside comprises 20.3% (n = 30), and Tynemouth includes 23.0% (n = 34). Within the sample, 62.8% (n = 93) of participants are in the control group, while 37.2% (n = 55) are in the treatment group.

		Count	Column N %
Constituency	Gateshead	29	19.6%
	Newcastle upon Tyne Central	17	11.5%
	Newcastle upon Tyne East	18	12.2%
	Newcastle upon Tyne North	20	13.5%
	North Tyneside	30	20.3%
	Tynemouth	34	23.0%
	Subtotal	148	100.0%
Group	Control	93	62.8%
	Treatment	55	37.2%

For Labour Party approval in Wave 22, the mean scores reveal varying levels of support across constituencies. Gateshead reports a mean approval rating of 4.586 (95% CI [3.416, 5.756]) with a standard deviation of 3.077, indicating moderate support with considerable variability. Newcastle upon Tyne Central shows a similar mean of 4.471 (95% CI [3.085, 5.856]) with a slightly lower standard deviation of 2.695, suggesting somewhat more consistent ratings. Newcastle upon Tyne East's mean approval rating is 4.556 (95% CI [3.106, 6.005]) with a standard deviation of 2.915, again indicating moderate support. Newcastle upon Tyne North has a slightly higher mean of 4.900 (95% CI [3.436, 6.364]) with a standard deviation of 3.127, reflecting higher but still variable support. North Tyneside presents a mean approval rating of 4.233 (95% CI [3.014, 5.453]) with the highest standard deviation of 3.266, indicating the greatest variability in responses. Tynemouth's mean approval rating is 4.529 (95% CI [3.439, 5.620]) with a standard deviation of 3.126.

		Labour Part Approval – Wave 22			
		Mean	95.0% Lower CL for Mean	95.0% Upper CL for Mean	Standard Deviation
Constituency	Gateshead	4.586	3.416	5.756	3.077
	Newcastle upon Tyne Central	4.471	3.085	5.856	2.695
	Newcastle upon Tyne East	4.556	3.106	6.005	2.915
	Newcastle upon Tyne North	4.900	3.436	6.364	3.127
	Tynemouth	4.529	3.439	5.620	3.126
	North Tyneside	4.233	3.014	5.453	3.266

In Wave 25, changes in Labour Party approval ratings are observed. Gateshead shows a slight decline to a mean of 4.241 (95% CI [3.252, 5.230]) with a reduced standard deviation of 2.600, suggesting more consistent but slightly lower approval. Newcastle upon Tyne Central reports an increase to a mean of 5.118 (95% CI [3.631, 6.604]) with a higher standard deviation of 2.891, indicating greater variability in the increased support. Newcastle upon Tyne East also shows an increase to a mean of 4.833 (95% CI [3.364, 6.303]) with a standard deviation of 2.956. Newcastle upon Tyne North maintains a high mean approval of 5.000 (95% CI [3.422, 6.578]) with increased variability (standard deviation of 3.372). North Tyneside presents a notable increase to a mean of 5.200 (95% CI [4.170, 6.230]) with a lower standard deviation of 2.759, suggesting higher and more consistent support. Tynemouth's mean approval rating also increases to 5.000 (95% CI [3.877, 6.123]) with a standard deviation of 3.219.

		Labour Part Approval – Wave 25			
		Mean	95.0% Lower CL for Mean	95.0% Upper CL for Mean	Standard Deviation
Constituency	Gateshead	4.241	3.252	5.230	2.600
	Newcastle upon Tyne Central	5.118	3.631	6.604	2.891
	Newcastle upon Tyne East	4.833	3.364	6.303	2.956
	Newcastle upon Tyne North	5.000	3.422	6.578	3.372
	North Tyneside	5.200	4.170	6.230	2.759
	Tynemouth	5.000	3.877	6.123	3.219

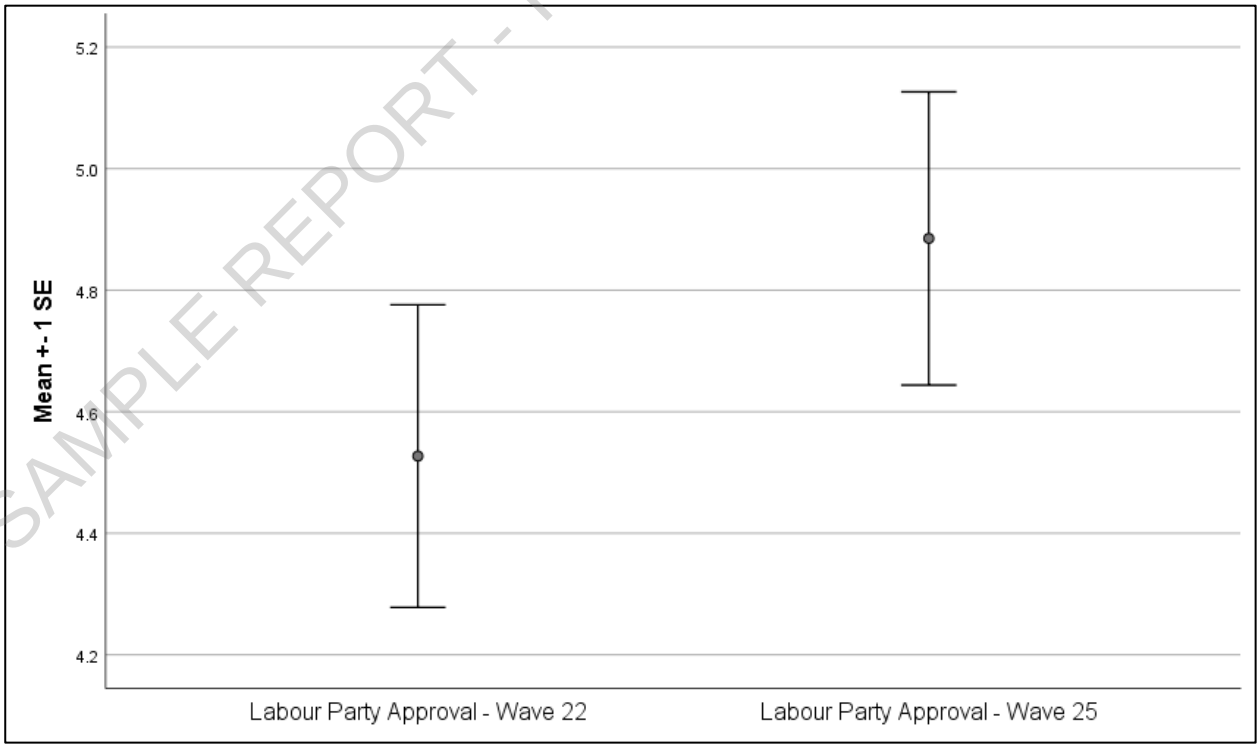
The table below shows the overall descriptive statistics for Labour Party approval ratings in Wave 22 and Wave 25 across all constituencies. In Wave 22, with 148 valid responses, the approval ratings range from 0 to 10, with a mean of 4.53 and a standard deviation of 3.029, indicating moderate

variability. The skewness of 0.064 and kurtosis of -1.055 suggest a fairly symmetrical distribution that is somewhat flatter than normal, indicating no significant deviation from normality. In Wave 25, the same 148 responses show an increased mean approval rating of 4.89 and a slightly lower standard deviation of 2.936, reflecting marginally reduced variability. The skewness of -0.137 and kurtosis of -0.908 similarly indicate a relatively symmetrical and flatter distribution, again showing no significant deviation from normality. Overall, the increase in mean approval and the slight reduction in variability from Wave 22 to Wave 25 suggest improved and more consistent Labour Party approval ratings over time.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Labour Part Approval – Wave 22	148	0	10	4.53	3.029	.064	.199	-1.055	.396
Labour Part Approval – Wave 25	148	0	10	4.89	2.936	-.137	.199	-.908	.396
Valid N (listwise)	148								

The error chart below illustrates the overall change in the approval mean from wave 22 to 25 with standard errors.



Paired-Samples T-tests

A paired-samples t-test is a statistical technique used to compare the means of two related groups to determine whether there is a statistically significant difference between these means. This test is appropriate when the same subjects are measured under two different conditions or at two different times. The test calculates the difference between each pair of observations, analyzes these differences, and assesses whether the average difference is significantly different from zero. The assumptions of the paired-samples t-test include the differences between pairs being normally distributed.

Overall

The test comparing Labour Party approval ratings between Wave 22 and Wave 25 across all respondents reveals a mean difference of -0.358 (SD = 1.913), with a standard error mean of 0.157. The 95% confidence interval for the difference ranges from -0.669 to -0.047. The t-value is -2.277 with 147 degrees of freedom, and the result is statistically significant (p = .024). This indicates that there is a significant increase in Labour Party approval ratings from Wave 22 to Wave 25 overall, as a negative difference implies higher scores in Wave 25.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% CI of the Difference				
					Lower	Upper			
Pair 1	Labour Party Approval - Wave 22 Labour Party Approval - Wave 25	-.358	1.913	.157	-.669	-.047	-2.277	147	.024

Treatment Group

For the treatment group, the paired-samples t-test comparing Labour Party approval ratings between Wave 22 and Wave 25 shows a mean difference of -0.327 (SD = 1.796), with a standard error mean of 0.242. The 95% confidence interval for the difference ranges from -0.813 to 0.158. The t-value is -1.352 with 54 degrees of freedom, and the result is not statistically significant (p = .182). This indicates that there is no significant change in Labour Party approval ratings from Wave 22 to Wave 25 within the treatment group.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Labour Party Approval - Wave 22 Labour Party Approval - Wave 25	-.327	1.796	.242	-.813	.158	-1.352	54	.182

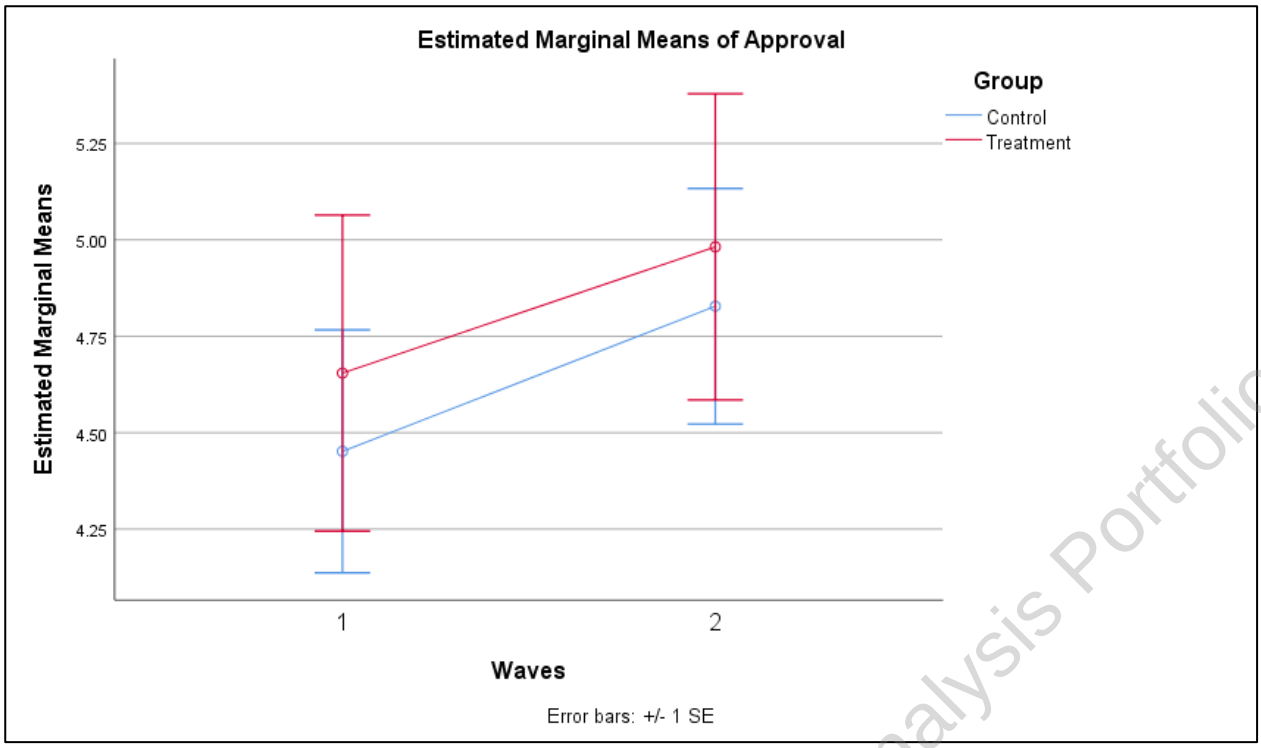
Control Group

In the control group, the paired-samples t-test comparing Labour Party approval ratings between Wave 22 and Wave 25 indicates a mean difference of -0.376 (SD = 1.989), with a standard error mean of 0.206. The 95% confidence interval for the difference ranges from -0.786 to 0.033. The t-value is -1.825 with 92 degrees of freedom, and the result is marginally non-significant (p = .071). This suggests that there is a trend towards an increase in Labour Party approval ratings from Wave 22 to Wave 25 within the control group, but this trend does not reach statistical significance.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Labour Party Approval - Wave 22 - Labour Party Approval - Wave 25	-.376	1.989	.206	-.786	.033	-1.825	92	.071

The graph below shows the difference in means for each group and waves.



Conclusion

In conclusion, the paired-samples t-test results indicate a significant overall increase in Labour Party approval ratings from Wave 22 to Wave 25. Specifically, the mean difference of -0.358 (SD = 1.913) across all respondents was statistically significant, with a p-value of .024, suggesting a meaningful improvement in approval ratings over time. However, when analyzed separately, the treatment group did not exhibit a significant change, with a mean difference of -0.327 (SD = 1.796) and a non-significant p-value of .182. In contrast, the control group showed a marginally non-significant increase, with a mean difference of -0.376 (SD = 1.989) and a p-value of .071. These findings suggest that while there is an overall upward trend in Labour Party approval ratings, this increase is not uniformly observed across different groups, with the control group contributing more to the overall trend than the treatment group. This nuanced understanding underscores the importance of considering group-specific dynamics in political approval ratings over time.