

The Covid-19 outbreak and pandemic has affected people, the economy and travel. As New Zealanders, we have been quite fortunate to be one of a handful of countries that have managed to get little to no active community cases but that isn't to say the virus has not affected us. For this report, I will be looking at the effect that the virus has had on the viewpoints of Victoria University students that were not born in New Zealand, taken from a study conducted in 2020 in the 2021 Future As Seen By Victoria Graduates survey. I will also be comparing the results to the results of people born in New Zealand. I have selected these groups as I believe it would be interesting to see the views of someone not born in New Zealand's reaction to how the virus was handled and the potential implications they think the virus has had on our country compared to that of someone from New Zealand.

To ensure the accuracy of my data I removed any observations that had a black or invalid response for my selected data points (E.g. if the observation had not entered a birth country, their observation would be deleted from the selection). All screenshots to my test outputs will be included below the paragraph they are referenced in.

One of the first things that I investigated was the subject's general response to the question "how would you rate the impact that the Covid 19 pandemic has had on your own life over the past year (scale of -100 to +100 with -100 being a large negative impact)?" and related these numeric variables to what the typical responses were. After running the descriptive statistics functions in excel, I was able to observe that the data had a mean value of -10 for overall impact, meaning that the average person from my selection would have been slightly negatively affected by Covid-19. The summary has also shown that the mode value was 0, meaning that the most common answer was that covid has had no real positive or negative impact on the subjects life over the past year. I also tested the data for people born in New Zealand and found a similar mean of -11, meaning that largely, the average person thought the same as the non-NZ born data. This could be placed down to a multitude of reasons but a likely reason was that their home country had a worse response to Covid-19 so they would have thought that our country's response to the virus left them better off than if they were in their birth country. The mode value was slightly lower at -20, meaning that the majority of people born in New Zealand thought that covid-19 affected them more negatively compared to someone that wasn't born in New Zealand. To confirm my assessment of means and see if there was a larger difference across both sets of population, I ran an anova test to give the P-value of the data, which returned a value of 0.82, telling me that it would be very likely to get this magnitude of difference in averages in our sample if there is really no difference across the entire population.

t-Test: Two-Sample Assuming Unequal Variances

| | NZ | Non-nz |
|---------------------|----------|----------|
| Mean | -11.4135 | -10.4468 |
| Variance | 1090.402 | 1881.046 |
| Observations | 266 | 94 |
| Hypothesized Mean D | 0 | |
| df | 133 | |
| t Stat | -0.19688 | |
| P(T<=t) one-tail | 0.422111 | |
| t Critical one-tail | 1.656391 | |
| P(T<=t) two-tail | 0.844222 | |
| t Critical two-tail | 1.977961 | |

| Anova: Single Factor | | | | | | |
|----------------------|----------|-------|----------|----------|----------|----------|
| SUMMARY | | | | | | |
| Groups | Count | Sum | Average | Variance | | |
| NZ | 266 | -3036 | -11.4135 | 1090.402 | | |
| Non-nz | 94 | -982 | -10.4468 | 1881.046 | | |
| ANOVA | | | | | | |
| Source of Variation | SS | df | MS | F | P-value | F crit |
| Between Groups | 64.91023 | 1 | 64.91023 | 0.050093 | 0.823029 | 3.867565 |
| Within Groups | 463893.7 | 358 | 1295.793 | | | |
| Total | 463958.7 | 359 | | | | |

Non NZ born impact level:

| Veiw points on personal impact of covid | |
|---|----------|
| Mean | -10.4468 |
| Standard Error | 4.473379 |
| Median | -15 |
| Mode | 0 |
| Standard Deviation | 43.37102 |
| Sample Variance | 1881.046 |
| Kurtosis | -0.20961 |
| Skewness | 0.191124 |
| Range | 180 |
| Minimum | -100 |
| Maximum | 80 |
| Sum | -982 |
| Count | 94 |

NZ born impact level:

| itively, how would you | |
|------------------------|----------|
| Mean | -11.1611 |
| Standard Error | 1.894703 |
| Median | -17.5 |
| Mode | -20 |
| Standard Deviation | 35.94946 |
| Sample Variance | 1292.364 |
| Kurtosis | 0.450434 |
| Skewness | 0.437414 |
| Range | 190 |
| Minimum | -100 |
| Maximum | 90 |
| Sum | -4018 |
| Count | 360 |

A natural assumption is regarding how a global event on the magnitude of covid that has shaken the global economy, is to see how people feel about their future and the future of the country in regards to a post covid world. Within the data selection, the respondents were asked on a scale of one to one-hundred to these questions with 1 being as pessimistic as possible and 100 being as optimistic as possible. I applied a statistical summary for people not born in New Zealand which equated to an equal mean of 69.6 for both tests, meaning that people not born in

New Zealand, on average had a slightly optimistic outlook on both their own and for the future of New Zealand. Upon testing the same summary statistics for those that were born in New Zealand, I found that they had slightly lower mean optimism levels compared to that of those not born in New Zealand with a mean personal level of optimism of 69.5 and 64.1 for a mean level of optimism for how they look towards the future of this country. This means that people born in new zealand, on average, had a slightly optimistic outlook towards their own future but a slightly less optimistic outlook on the future of this country. As the means across all the values were similar, I wanted to test if there was any correlation between how people thought about their own future and how they thought about the future of this country. Upon testing I found a correlation confidence value of 0.36 for those not born in New Zealand and a confidence value of 0.59 for those born in New Zealand, meaning that there is statistically unlikely to be any correlation between a person's optimism towards their own future and the future of this country.

Non-nz:

| On a scale of -100 to +100, where -100 is extremely negatively and +100 is extremely positively, how would you rate the impact that the Covid 19 pandemic has had on your own life over the past year? | | | | |
|--|----------|----------|----------|----------|
| On a scale of -100 to +100, how would you rate the impact that the Covid 19 pandemic has had on your own life over the past year? | 1 | | | |
| On a scale of 1 to 100, please rate how you feel today about: - Your own future | 0.387098 | 1 | | |
| On a scale of 1 to 100, please rate how you feel today about: - The future of people living in New Zealand | 0.104546 | 0.359899 | 1 | |
| On a scale of 1 to 100, please rate how you feel today about: - The future of people living throughout the world | 0.177598 | 0.478594 | 0.425445 | 1 |
| On a scale of 1 to 100, please rate how you feel today about: - The future of the earth | 0.234418 | 0.440098 | 0.378381 | 0.667768 |

positively, how would you rate the impact that the Covid 19 pandemic has had on your own life over the past year?

| | | | | | |
|----------------|----------|----------|----------|----------|---|
| On a scale | 1 | | | | |
| On a scale | 0.26436 | 1 | | | |
| On a scale | 0.136706 | 0.580683 | 1 | | |
| On a scale | 0.109863 | 0.483535 | 0.609674 | 1 | |
| NZ: On a scale | 0.09467 | 0.360918 | 0.416689 | 0.660524 | 1 |

Covid-19 has affected everyone in a different manner. Based on my tests and observations, I was able to gather that the average person both born and not born in New Zealand found that covid-19 has added a slight inconvenience to their life as a whole. I was also able to gather the impact that covid had on the average person with regards to how they felt about the future of themselves and New Zealand and had found that had a slightly optimistic view towards this. This tells me that although Covid-19 has been a hindrance on everyday life, people are looking towards the future with optimism that as a country we will recover.