Critique on Statistical Comparison

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The comparison made in the email is not a good comparison because it has potential issues causing bias and variance. Below are potential drawbacks of the comparsion ordered by their importance:

1. The comparison between the two groups mentioned in the email is biased. One is a group of people who have already reached the age of 65. The second is a group of retirees from World Bank who generally retire at the age of 62 or earlier. This is biased in favour of the US group, since you already know that they have reached the age of 65 - this cannot be guaranteed for people from the World Bank group. A fairer comparison would be to compare World Bank retirees who have reached the age of 65 against people in the US who have reached the age of 65.

   Note: Since the mandatory retirement age at the World Bank was increased from 62 to 67, there is a small chance for someone to retire over the age of 62 (and then died during this time). Even in that case, they could not have retired at an age of 65 of more, since it is only two years since the implementation of this rule.

2. The estimate of the mean for the World Bank group has more variance than the estimate of the mean for the average US person. This is because the sample size for the World Bank retiree group is 919 retirees whereas the mean for the US male/female comes from a much larger sample. It would be a good idea to also report the variance of the World Bank retiree group so that we can check if the difference in life expectancy is significant.

3. Life expectancy depends on factors such as lifestyle, diet and exercise. World Bank employees come from a more diverse range of cultures than the average US person and may have a different lifestyle than the average US person. Depending on how the US lifestyle compares with the other life styles, we could be introducing a bias in the comparison.

4. The World Bank data comes from retirees who died in the last 6 years. While not explicitly mentioned, it is likely that the US estimate came from data that is less than 6 years old. Since there is an increasing trend in life expectancy over the last 6 years, the time difference between the two estimates may cause a bias in favour of the US group.