Responses to the Reviewer

Removal of g-computation has made the manuscript much easier to follow without changing conclusions. The paper is acceptable for publication following clarification of one remaining issue. In previous manuscript versions, MLR predictors were standardized ((predictor – mean)/standard deviation). For a standardized aerosol predictor (X), X = 0 was the mean and X = 1 was 1 standard deviation higher than the mean even though 0 was described as clean (rather than the mean) and 1 as polluted. This most recent manuscript version simply states that X is transformed into a binary distribution of 0 or 1 without saying how this is done. The figures have not changed, so does 0 and 1 still refer to inputs to standardized predictors? If so, then 0 does not represent clean conditions but mean conditions so the difference between X=1 and X=0 scenarios represents the effect of a 1 standard deviation change in X rather than the difference between clean and polluted. If X is not a standardized variable, then how are 0 and 1 determined?

We apologize for the miscommunication. We accidentally removed the texts about standardization in the last version.

We performed standardization only on the confounding variables (e.g., CAPE, ELR), *not* on the exposure variable (aerosol predictors). The aerosol predictors were simply transformed into a binary distribution of 0 or 1 in both the with-g-computation and without-g-computation versions, *without standardization*. In other words, the transformation in both article versions is consistent. We assign the aerosol number concentration that is higher than the median value to 1 and lower to 0, as written in lines 323-325 in the manuscript. Therefore, our results remain unchanged.

We added these sentences to the revised manuscript: “In addition, we perform standardization on the confounding variables. This standardization process transforms the variables so that they have a mean of 0 and a standard deviation of 1. It is achieved by subtracting the mean of each variable from each observation and then dividing by its standard deviation.”