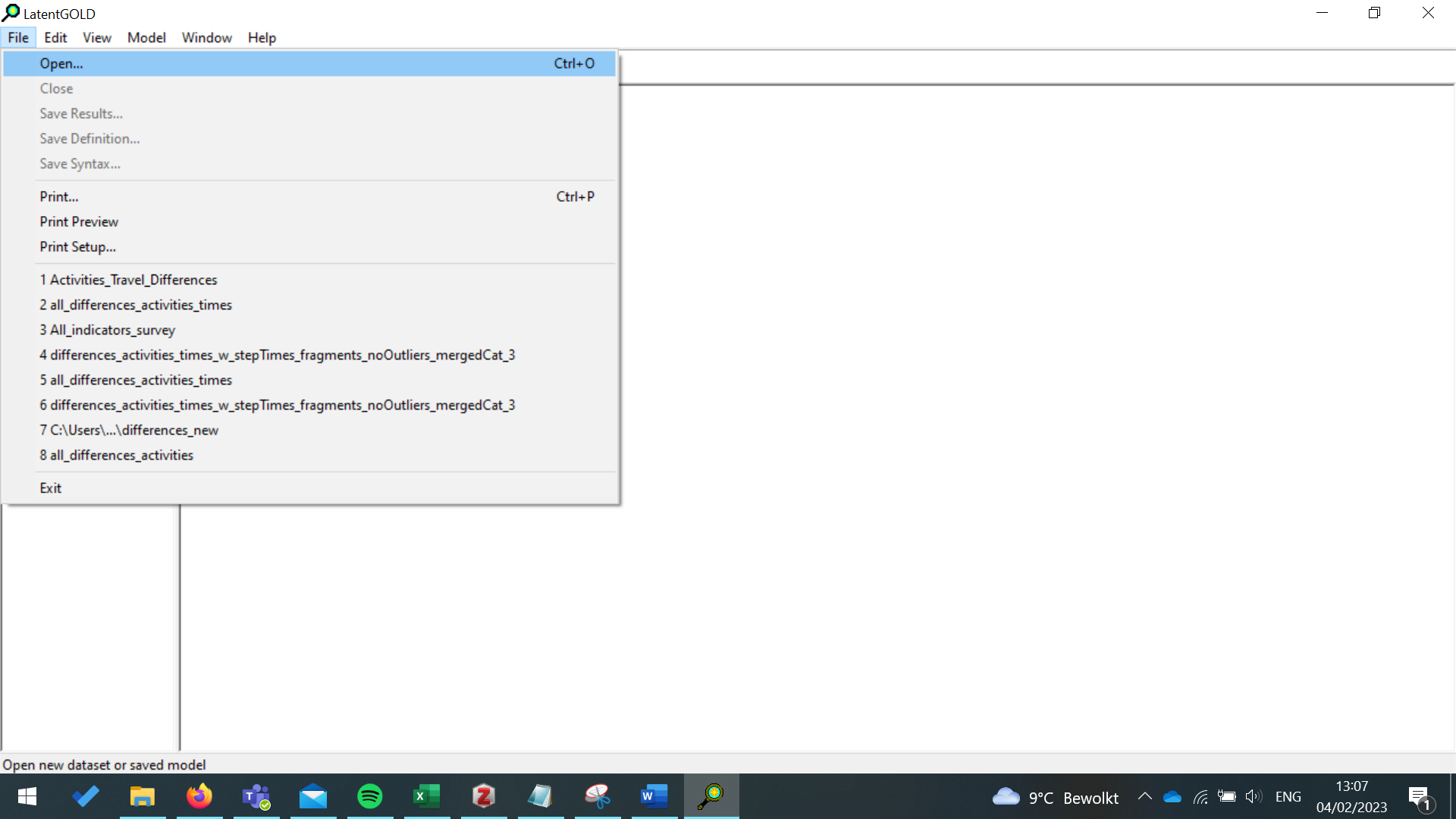
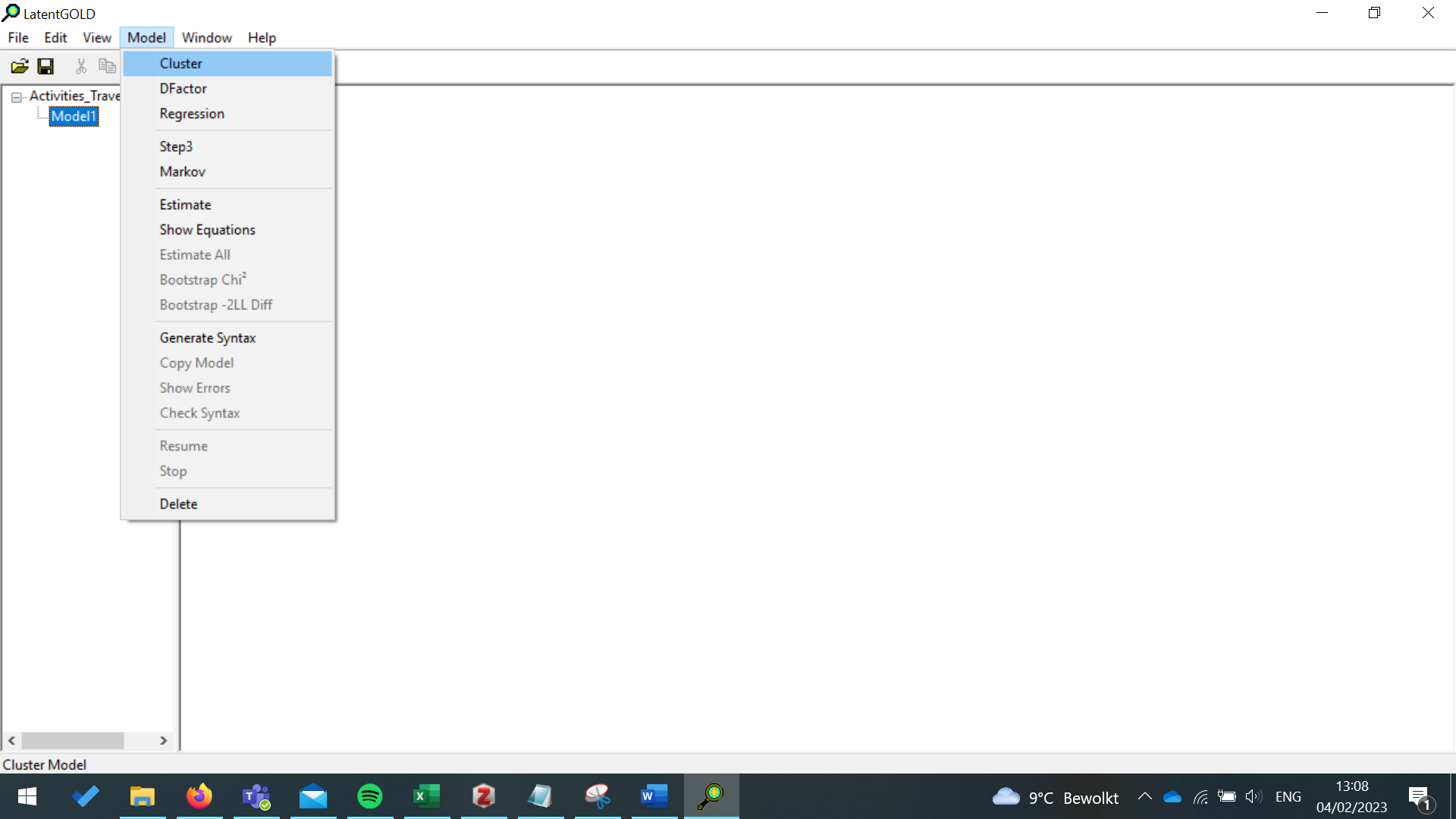
**Instructions for estimating a Latent Class Cluster Model in LatentGold**

1. **From LatentGold, open the source (data) file:** Activities\_Travel\_Differences\_with\_Response\_Times.csv



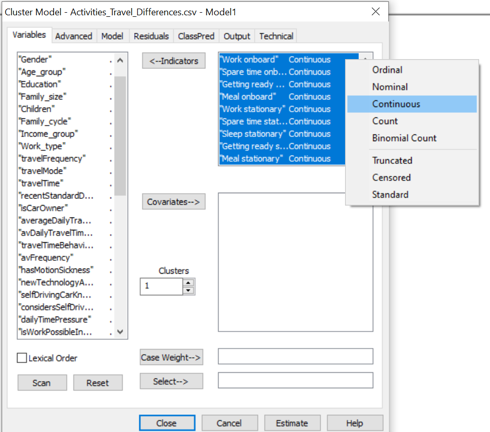
1. **Go to Model -> Cluster**



1. **Select Indicators (attributes) and select their type (“continuous” or “count”, etc.)**

For the model in section 4.2 (with complete list of activities, but without the information about the commitment to the survey), select the following attributes and set them all as “continuous”:

"Work onboard"; '"Spare time onboard"; "Getting ready onboard"; "Meal onboard"; "Work stationary"; "Spare time stationary"; "Sleep stationary"; "Getting ready stationary"; "Meal stationary"; "DifferenceWorkTrip"; "DifferenceHomeTrip".



For the model in section 4.3 (with a selection of activities and information about the commitment to the survey), select the following attributes:

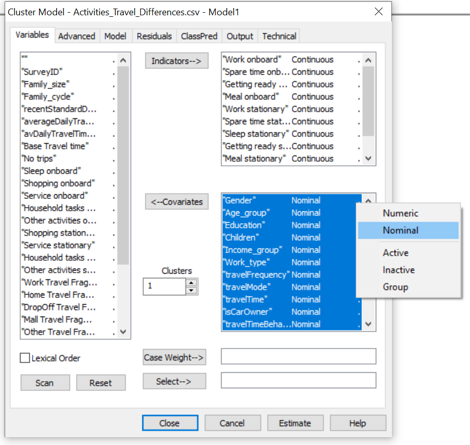
"Work onboard"; '"Spare time onboard"; "Work stationary"; "Spare time stationary"; “step1Time”; “step4Time”; “Planner\_1\_fragments” – set these as “continuous”;

“Copy\_current\_day” – set the type of this attribute as “nominal”.

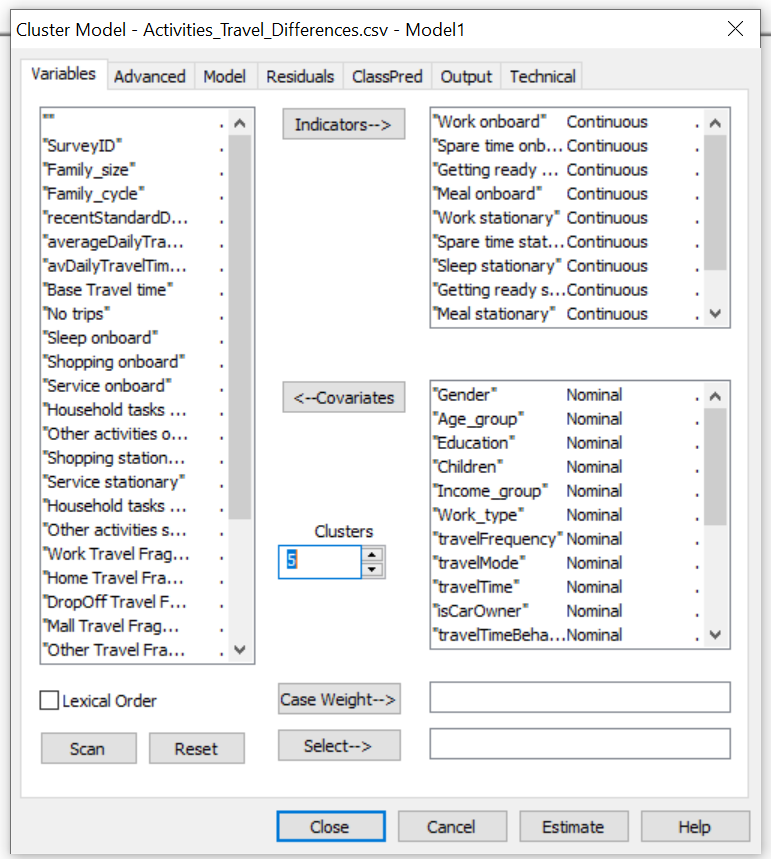
1. **Select Covariates and set them all to “nominal”**

We have defined active and inactive covariates as follows: we select the ones we think are most important and reflective of the behavioral change in the sample. Note that the inactive covariates do not influence the allocation of respondents into clusters.

|  |  |
| --- | --- |
| Active covariates | Inactive covariates |
| "Gender"; "Age\_group"; "Education"; '"Children"; "Income\_group"; "Work\_type"' '"travelFrequency"' '"travelMode"' '"travelTime"' '"isCarOwner"' | "travelTimeBehaviourChangeKey"' '"avFrequency"' '"hasMotionSickness"'  '"newTechnologyAdaptionSpeed"' '"selfDrivingCarKnown"' '"considersSelfDrivingCar"'  '"dailyTimePressure"' '"isWorkPossibleInCar"' '"surveyDifficulty"'  '"Automationlevel"'; |



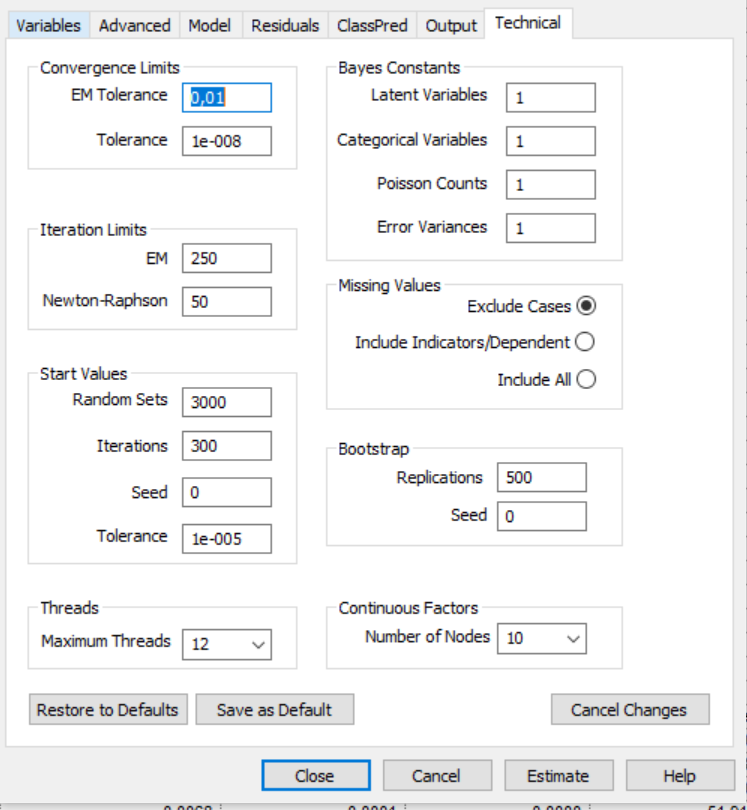
1. **Set the number of clusters to 5**



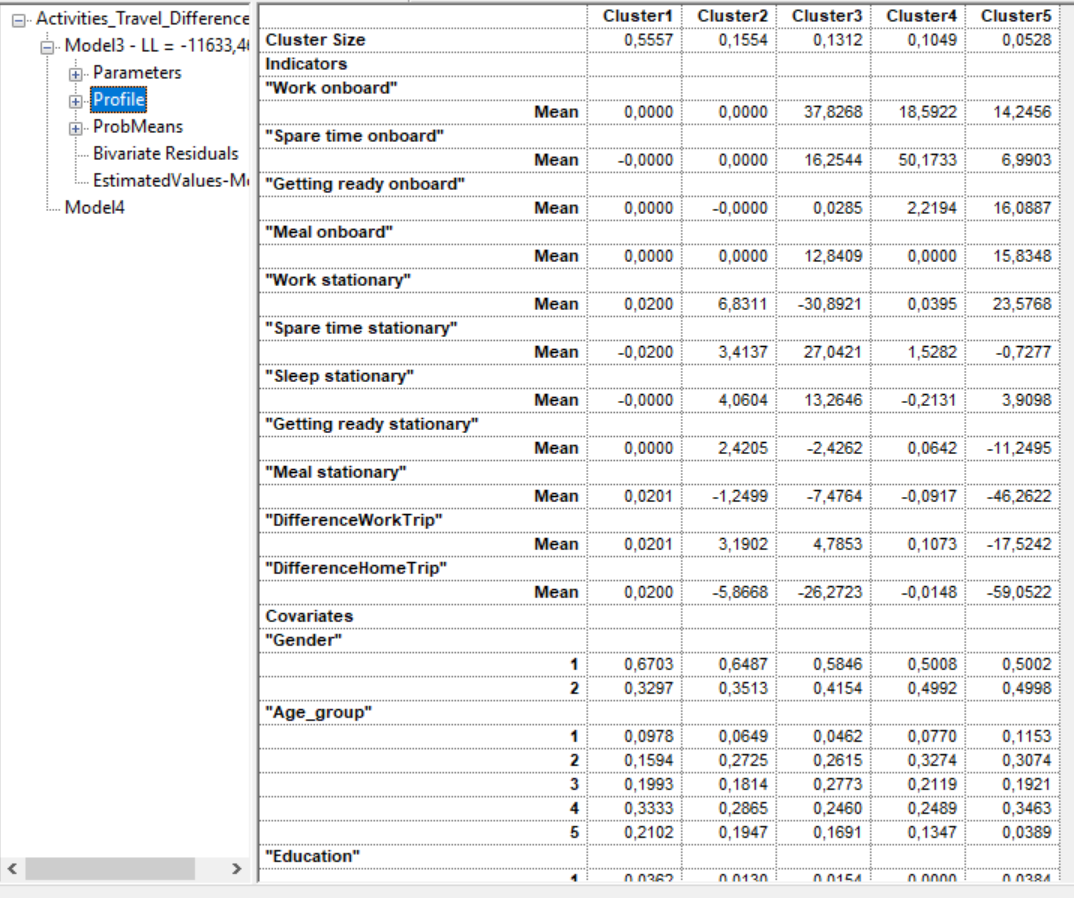
1. **Go to Technical, keep the default values except the following:**

Random sets= 3000

Iterations =300



1. **Estimate Model**



Note: A characteristic of LatentGold is that when the indicators are continuous and have values ​​between 0 and 1, then the LL will always be positive (residual variance will be less than 1 by definition). Due to many attributes in our dataset having values below 1 as they were divided over the travel duration, LatentGold produces a model with a positive LL. In order to remedy this, we were advised by the LatentGold developers to adjust the scale to 0-100 by multiplying by 100. They have confirmed that the cluster solution remains the same. The values produced in the “Indicators” section are the same only multiplied by 100. In the analysis phase, we divide them by 100 in order to facilitate the analysis.

The second model, which includes variables related to commitment to survey did not encounter the problem with positive log-likelihood and therefore did not use this transformation. Some of the corresponding model output therefore has values that are approximately 100 times smaller.

1. **You can save the results and definition by going to File -> Save results or Save definition**

