Understanding Society User Support - Support #1485

Is multi-level modelling needed when using information at the LSOA level

01/20/2021 10:58 AM - Martin Hyde

Status:	Resolved	**Start date:**	01/20/2021
Priority:	Normal	**% Done:**	100%
Assignee:			
Category:			

Description

I am aiming to look at the impact of residential age structure on a range of health and well being outcomes by linking official data produced for lower super output areas, from the ONS, with information on individuals from Understanding Society using Understanding Society: Waves 1-9, 2009-2018: Census 2011 Lower Layer Super Output Areas dataset (SN 7248) to link these data. My question to you is whether I would need to use a multi-level model. On the one hand the residential level measures are recorded at a higher level, on the other hand there are around 50,000 of these residential areas in the country and Understanding Society has around 40,000 households, therefore it is unlikely that more than a couple of households would be clustered within any single residential area. My understanding of multi-level modelling is that it is necessary to take account of the fact that cases which are clustered in areas/organisations, etc., are not independent of each other given that they share the same area. However, given that it is unlikely that there will be many cases clustered in any one of these residential areas would it be necessary to use this? I have reviewed a number of papers who have conducted similar studies and some have used MLM whilst others, e.g. Area deprivation, perceived neighbourhood cohesion and mental health at older ages: A cross lagged analysis of UK longitudinal data https://www.sciencedirect.com/science/article/pii/S1353829220304238. Any suggestions/ideas/advice would be most welcome.

History

#1 - 01/21/2021 10:15 AM - Alita Nandi

- Status changed from New to Feedback

- % Done changed from 0 to 50

Hi Martin,

This is an analysis question and it is not within our remit to provide analytical help as we don't have enough staff time available to answer these questions for everyone. But I would like to clarify the issues about the data that will help you make your decision.

Most of the samples in the survey areclustered on postcode sectors (BHPS original Essex sample had 33 addressses selected from each selected postcode sector and UKHLS GPS-GB with 18 addresses selected from each postcode sector, the NI sub-samples were not clustered). But not all addresses selected respond to the survey. Additionally, the sample you end up using for your specific analysis may result in fewer households form the same sector, also over time people move and so longitudinal samples become less clustered. You should check the number of observations in each LSOA in your final sample.

Hope this helps.
Best wishes,
Understanding Society User Support Team

#2 - 01/21/2021 10:41 AM - Alita Nandi

- Assignee set to Alita Nandi

- Private changed from Yes to No

#3 - 01/21/2021 12:06 PM - Alita Nandi

- Status changed from Feedback to Resolved

- Assignee deleted (Alita Nandi)

- % Done changed from 50 to 100

#4 - 10/24/2023 09:48 AM - Understanding Society User Support Team

- Status changed from Resolved to In Progress

#5 - 10/24/2023 09:48 AM - Understanding Society User Support Team

- Status changed from In Progress to Resolved