

CHECKLIST FOR PAPERS USING THE ALSPAC RESOURCE: v36. 1st September 2021

All ALSPAC papers (including monographs and book chapters) must be sent to the ALSPAC Executive for approval *prior* to journal submission. Please note that if there are any significant changes to the paper after Executive approval, re-approval must be sought. **We expect to process all papers within two weeks of receipt.** We read all papers to check confidentiality is protected and to ensure that the paper will not bring the study into disrepute. We also provide advice and feedback to authors where we feel this may be helpful. Below is a checklist of requirements for ALSPAC papers along with accompanying notes either explaining these requirements and/or containing appropriate text to insert. We understand that it may be difficult to adhere to some of the points below for papers resulting from genetics consortia and other specialised publications, therefore please tick N/A where necessary. Please send the completed checklist and your manuscript to alspac-exec@bris.ac.uk *prior* to journal submission and allow sufficient time for processing.

Name of corresponding author: Hans van Kippersluis
ALSPAC Data Buddy (if applicable): Sian Crossweller

Title of paper: The Economics and Econometrics of Gene-Environment Interplay

Type of paper: Peer review ☒ Working paper ☐ Other ☐
Please describe:

Proposal/B number: B2492 **Funding body:** NORFACE DIAL Programme

	Yes	No	N/A
1. I agree to making this paper open access via a compliant journal or some other repository [see footnote 1]	X		
2. I have included ALSPAC as a keyword where appropriate [see footnote 2]. (If this paper includes an author from the University of Bristol, I will ensure that they will add ALSPAC as a 'structured keyword' when they enter this publication into PURE [see footnote 3])	X		
3. I have included an accurate description of the study numbers [see footnote 4] and the correct references to the cohort [see footnote 5]	X		
4. For papers using questionnaire or clinic data gathered from 2014 onwards, I have included a citation to REDCap [see footnote 6]	X		
5. I have included reference to the ALSPAC data dictionary and variable search tool [see footnote 7]	X		
6. I have included an accurate description of the ethical approval and obtaining consent [see footnote 8]	X		
7. For projects using linked health and/or education records, I have included the appropriate statements [see footnote 9]	X		
8. I have included an accurate acknowledgements sections [see footnote 10]	X		
9. I have included an accurate funding section [see footnote 11], please note the specific requirements for child GWAS data and individual primary exposure and outcome variables	X		
10. I have not used the term statistical significance [see footnote 12] (optional)		X	
11. I have included all supplementary materials	X		
12. I will return any derived variables and accompanying documentation [see footnote 13]	X		
13. I will send a copy of the final submitted manuscript and any revised versions	X		

14. I have not used cell counts smaller than n=5 [see footnote 14]	X	
15. I will let the Executive know when the paper is accepted for publication	X	
16. I will send through an electronic copy of the final paper	X	
17. I will advise the ALSPAC Communications team (alspac-media@bristol.ac.uk) in advance of any press release, video or media activity planned and tag @CO90s on Twitter [see footnote 15]	X	
18. I will provide a short scientific summary of this paper if required by the Executive [see footnote 16]	X	
19. I have used data from ALSPAC only <input checked="" type="checkbox"/> -OR- I have used data from ALSPAC and other sources		
20. I have provided a lay summary with this submission [see footnote 17]	X	

Signature:

Date: 4 February 2022

FOOTNOTES

1. Open Access

ALSPAC fully supports Wellcome and the RCUK policies on open access. This means that we expect all papers using ALSPAC data to be made available through open access publication or through other means. Please refer to the ALSPAC access policy for further details:

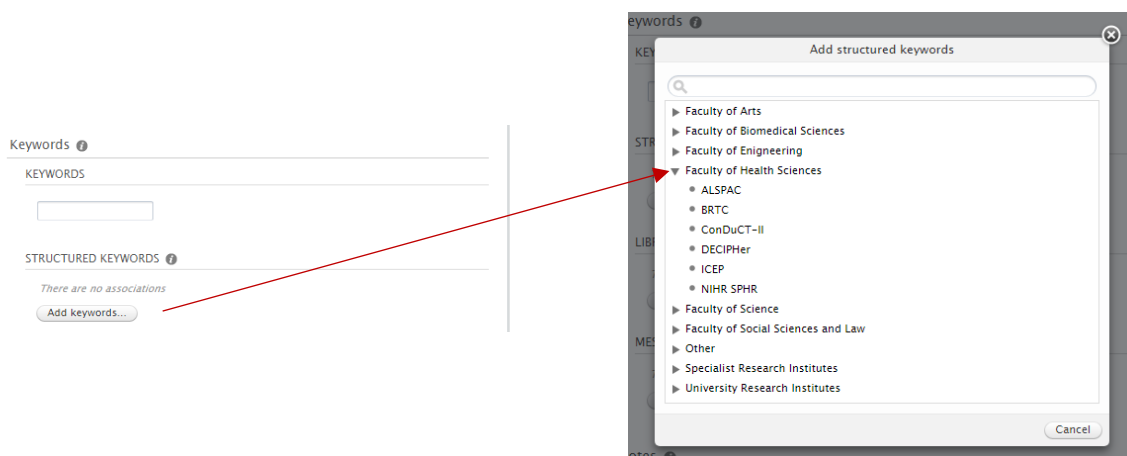
<http://www.bristol.ac.uk/alspac/researchers/data-access/>.

2. Keywords

We appreciate that not all publications allow keywords and in certain circumstances this point cannot be adhered to; such as papers publishing data from consortia which may not allow individual studies to be cited in keywords. However, we encourage ALSPAC to be included as a keyword wherever possible.

3. Add ALSPAC as a structured keyword in PURE (UoB authors only)

University of Bristol authors must update PURE (the University's research information system and institutional repository) when a paper is submitted, accepted and published. As part of the PURE entry there is a keywords section (see figure below). Authors are requested to click on the 'Add Keywords' button under 'Structured keywords', click on the arrow next to 'Faculty of Health Sciences' and then click on 'ALSPAC'.



4. Description of study numbers

Pregnant women resident in Avon, UK with expected dates of delivery 1st April 1991 to 31st December 1992 were invited to take part in the study. The initial number of pregnancies enrolled is 14,541 (for these at least one questionnaire has been returned or a “Children in Focus” clinic had been attended by 19/07/99). Of these initial pregnancies, there was a total of 14,676 fetuses, resulting in 14,062 live births and 13,988 children who were alive at 1 year of age.

When the oldest children were approximately 7 years of age, an attempt was made to bolster the initial sample with eligible cases who had failed to join the study originally. As a result, when considering variables collected from the age of seven onwards (and potentially abstracted from obstetric notes) there are data available for more than the 14,541 pregnancies mentioned above. The number of **new pregnancies** not in the initial sample (known as Phase I enrolment) that are currently represented on the built files and reflecting enrolment status at the age of 24 is 913 (456, 262 and 195 recruited during Phases II, III and IV respectively), resulting in an additional 913 children being enrolled. The phases of enrolment are described in more detail in the cohort profile paper and its update (see footnote 4 below). The total sample size for analyses using any data collected after the age of seven is therefore 15,454 pregnancies, resulting in 15,589 fetuses. Of these 14,901 were **alive at 1 year of age**.

A 10% sample of the ALSPAC cohort, known as the **Children in Focus (CiF) group**, attended clinics at the University of Bristol at various time intervals between 4 to 61 months of age. The CiF group were chosen at random from the last 6 months of ALSPAC births (1432 families attended at least one clinic). Excluded were those mothers who had moved out of the area or were lost to follow-up, and those partaking in another study of infant development in Avon.

5. Reference to the cohort

The following **two** references should be cited where the cohort is first described in the methods:

Boyd A, Golding J, Macleod J, Lawlor DA, Fraser A, Henderson J, Molloy L, Ness A, Ring S, Davey Smith G. Cohort Profile: The ‘Children of the 90s’; the index offspring of The Avon Longitudinal Study of Parents and Children (ALSPAC). *International Journal of Epidemiology* 2013; 42: 111-127.

Fraser A, Macdonald-Wallis C, Tilling K, Boyd A, Golding J, Davey Smith G, Henderson J, Macleod J, Molloy L, Ness A, Ring S, Nelson SM, Lawlor DA. Cohort Profile: The Avon Longitudinal Study of Parents and Children: ALSPAC mothers cohort. *International Journal of Epidemiology* 2013; 42:97-110.

If your paper includes data collected on the **index children since the age of 18 years**, the following reference should also be cited:

Northstone K, Lewcock M, Groom A, Boyd A, Macleod J, Timpson NJ, Wells N. The Avon Longitudinal Study of Parents and Children (ALSPAC): an updated on the enrolled sample of index children in 2019. *Wellcome Open research* 2019; 4:51 (<https://doi.org/10.12688/wellcomeopenres.15132.1>)

If your paper includes data collected on **G2 (the Children of the Children)** the following reference should also be cited:

Lawlor DA, Lewcock M, Jones LR, Rollings C, Yip V, Smith D, Pearson RM, Johnson L, Millard LAC, Patel N, Skinner A, Tilling A. The second generation of the Avon Longitudinal Study of Parents and Children (ALSPAC-G2): a cohort profile. *Wellcome Open Res* 2019; 4: 36 (doi: <https://doi.org/10.12688/wellcomeopenres.15087.1>).

6. Reference to REDCap

For papers using data gathered from participants at 22 years and onwards, you should also include a citation to REDCap, as the tool that ALSPAC have used to collect the data. Please include the following statement with the associated reference:

Study data were collected and managed using REDCap electronic data capture tools hosted at the University of Bristol.¹ REDCap (Research Electronic Data Capture) is a secure, web-based software platform designed to support data capture for research studies.

¹PA Harris, R Taylor, R Thielke, J Payne, N Gonzalez, JG. Conde, Research electronic data capture (REDCap) – A metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform.* 2009 Apr;42(2):377-81.

7. Data dictionary

We ask that you include the following statement as part of your methods section: "Please note that the study website contains details of all the data that is available through a fully searchable data dictionary and variable search tool" and reference the following webpage:

<http://www.bristol.ac.uk/alspac/researchers/our-data/>

8. Ethical approval and informed consent

ALSPAC has its own Ethics and Law Committee that reviews all proposals for new data collection and approves policies for data handling and analysis. Proposals for new data collection are also approved by the Local Research Ethics Committees (LRECs). A statement describing this that should be included in all papers is shown below:

"Ethical approval for the study was obtained from the ALSPAC Ethics and Law Committee and the Local Research Ethics Committees."

Please note that some journals are now requesting precise details on the ethics committee/institutional review board(s) that approved aspects of the study when submitting your paper. You may choose the ethic approvals relevant to your paper from the following webpage (or simply refer to the webpage in your submission): <http://www.bristol.ac.uk/alspac/researchers/research-ethics/>

In addition, journals are more commonly asking for details about informed consent. Please include the following statement where biological samples are reported:

"Consent for biological samples has been collected in accordance with the Human Tissue Act (2004)."

For all other data please use the following sentence:

"Informed consent for the use of data collected via questionnaires and clinics was obtained from participants following the recommendations of the ALSPAC Ethics and Law Committee at the time."

Please contact the Executive at alspac-exec@bristol.ac.uk if further details are required.

9. Linked health and/or education records

For any papers reporting on data obtained on G1 (the study children) from **linked health and/or education records**, the following statement must be included in the methods section:

"At age 18, study children were sent 'fair processing' materials describing ALSPAC's intended use of their health and administrative records and were given clear means to consent or object via a written

form. Data were not extracted for participants who objected, or who were not sent fair processing materials”

Additional to this, the following sentence must be included alongside the ethics statements above in any publication using ALSPAC linked **health** records:

“Ethical approval for the study was obtained from the ALSPAC Law and Ethics committee and local research ethics committees (NHS Haydock REC: 10/H1010/70).”

The linkage team will advise on any further publication requirements applicable to your project (alspac-linkage@bristol.ac.uk).

10. Acknowledgements section

The following standard acknowledgements section should be included in all publications as is or in a modified form to fit the journal requirements for all papers:

“We are extremely grateful to all the families who took part in this study, the midwives for their help in recruiting them, and the whole ALSPAC team, which includes interviewers, computer and laboratory technicians, clerical workers, research scientists, volunteers, managers, receptionists and nurses.”

11. Funding section

We have standard wording that must be included in all publications to acknowledge our core funding:

“The UK Medical Research Council and Wellcome (Grant ref: 217065/Z/19/Z) and the University of Bristol provide core support for ALSPAC. This publication is the work of the authors and <INSERT NAMES> will serve as guarantors for the contents of this paper.”

If you receive any funding direct from Wellcome then you must include the following statement in addition to the above:

“This research was funded in whole, or in part, by the Wellcome Trust [Grant number]. For the purpose of Open Access, the author has applied a CC BY public copyright licence to any Author Accepted Manuscript version arising from this submission.”

In addition, you are expected to acknowledge the grant(s) which supported the collection of the **primary exposure(s) and outcome(s)** used in your study and any other grants in the checklist, which are pertinent to your study. The following sentences should be included with the above section:

“A comprehensive list of grants funding is available on the ALSPAC website (<http://www.bristol.ac.uk/alspac/external/documents/grant-acknowledgements.pdf>); This research was specifically funded by <INSERT DETAILS FOR SPECIFIC PROJECT(S) WHERE APPROPRIATE, including grant number(s)>.”

We have provided a table of grants for data collected since 2006 here; <http://www.bristol.ac.uk/alspac/external/documents/grant-acknowledgements.pdf>. Please consult this and ensure all grants are acknowledged. If you can't find the specific grant for the data you have used in the table please email alspac-data@bristol.ac.uk, including 'Grant query' in the subject, who will try and assist.

If your paper uses child GWAS data, please also include the following sentence in the funding section:

“GWAS data was generated by Sample Logistics and Genotyping Facilities at Wellcome Sanger Institute and LabCorp (Laboratory Corporation of America) using support from 23andMe.”

12. Statistical significance

We discourage the use of the term “statistical significance” and encourage authors to describe the observed effect sizes and the strength of the evidence that supports these effect size estimates. For a detailed justification see: Sterne JAC, Davey Smith G. Sifting the evidence—what's wrong with significance tests? *British Medical Journal* 2001; 322; 226-231.

13. Final dataset of derived variables

By derived variables we mean new variables that have been derived using at least two existing variables (rather than simple recodes), or other variables that do not currently exist in the ALSPAC resource that will be of use to other researchers. Derived variables will be archived by ALSPAC and will ultimately be made available to future data users and thus appropriate documentation detailing the derivation must also be provided. This will be followed up on approval of your manuscript where appropriate.

14. Small cells counts

If any tables contain cell counts less than 5 (including zero), we ask you to consider collapsing categories if possible. If this is not possible, then please replace the cell count with '<5'. If a cell contains zero then please include a footnote to indicate “this many include zero”. Please note, this also implies to any imputed data. Please also ensure that any percentages are dealt with in a similar manner when exact numbers can easily be inferred from information in the table.

15. Media coverage of ALSPAC publications

Where appropriate we encourage media coverage of ALSPAC papers to raise the study's profile. We are also keen to show study families that the study is producing interesting and valuable findings. We always refer to the study as ‘the Children of the 90s health study’ in the press – which is how participants know and refer to us. Please contact the ALSPAC Comms team (alspac-media@bristol.ac.uk) in advance, if you know there is going to be a press release, any social media or video about your paper or if you plan to give any press interviews. We also would appreciate being tagged on Twitter: please use @CO90s in your tweets.

16. Short scientific summary of the paper

We may ask you to prepare a short summary of your paper that we can include with reports to our funders.

17. Lay summary of the paper

We anticipate a lay summary to be between 150-250 words and to be in the format of an extended abstract written for lay readers, avoiding all technical and terms and unnecessary jargon. Providing a lay summary will assist our communications team in publicising your work. We may also circulate the summary to ALSPAC staff and our participants.