PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (http://bmjopen.bmj.com/site/about/resources/checklist.pdf) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Life stage-specific trends in educational inequalities in health-
	related quality of life and self-rated health between 2002 and 2016
	in Germany – Findings from the German Socioeconomic Panel
	Study (GSOEP)
AUTHORS	Sperlich, Stefanie; Klar, Marie; Safieddine, Batoul; Tetzlaff,
	Fabian; Tetzlaff, Juliane; Geyer, Siegfried

VERSION 1 – REVIEW

REVIEWER	Popie Damaskinos National and Kapodistrian University of Athens Dental School of Athens
	Greece
REVIEW RETURNED	12-Jul-2020

CENEDAL COMMENTS: Well written research names and an interesting purious Miner		
GENERAL COMMENTS	Well written research paper and an interesting project. Minor revision needed. i.e punctuation, wording, and syntax.	
	Page 3, line 41, In conclusion, both in the abstract and the paper (page 16), please add HRQL and SRH (i.e:inequality trends in HRQL and SRH).	
	Page 7, line 12, I would suggest a Headline for Life stage-approach.	
	Page 8, line 11, "without school leaving certificate" please clarify.	
	Page 10, last line, please rephrase and clarify that this is for both genders.	
	Page 11, first line, I would suggest deleting "corresponding to the results of Table 3".	
	Page 13, line 12," that adopted a life stage-specific" instead of an	
	Page 14, line 52, "population and " delete and	
	Page 15, line 12, who could not take part instead of "who could not participate"	
	Page 15, line 40, " Instead, " comma	
	Page 15, last line, "In particular, " comma	
	Page 16, line 5, "further studies " delete comma	

	Page 16, line 12, "young seniors, " comma
	Lage 10, line 12, young semons, comma
REVIEWER	Marta Gil-Lacruz Universidad de Zaragoza / Facultad de Ciencias de la Salud. Spain
REVIEW RETURNED	26-Aug-2020
GENERAL COMMENTS	The article addresses a relevant topic from which there is abundant scientific literature.
	The authors have been able to integrate it and at the same time, be innovative in their main proposal (to investigate the inequalities in HRQOL and SRH according to the different stages of life).
	The empirical work is rigorous, well founded and suggestive in its results.
	In my opinion I only find two minor sources of improvement: - Compensate the effort dedicated to introduction and discussion. The discussion of the results is much richer in references and theoretical questions than the introduction Try to simplify the combined explanation of the age and sex factors.
	However, I consider that the article is very interesting and generates new research questions, especially regarding the study of the differential effect of age, life stages, generation and cohort on the topics.
REVIEWER	Asif Johar Karokinska Institute, Sweden
REVIEW RETURNED	25-Nov-2020
REVIEW RETORNED	20 140V 2020
GENERAL COMMENTS	This is a well conducted study. However, I have some comments which need clarification.
	 Authors have dichotomized the SRH score, one would prefer using the original scores due to loss of information in dichotomizing a variable. HRQOL scores are transformed aggregated scores and scoring manuals recommend using these original scores, why these scores where standardized. Education and income is expected to have a high correlation. Did the author consider the problem of multicollinearity.
	Minor point: There is a typo in the Table 1 (column 2002-2006 and age group

VERSION 1 – AUTHOR RESPONSE

65-79).

Reply to the comments of Reviewer 1:

Page 3, line 41, In conclusion, both in the abstract and the paper (page 16), please add HRQL and SRH (i.e: ...inequality trends in HRQL and SRH).

Answer: As suggested, we added HRQOL and SRH in the abstract and the conclusions section.

Page 7, line 12, I would suggest a Headline for Life stage-approach.

Answer: As recommended, we included a headline for 'Life stage-approach' (page 6).

Page 8, line 11, "without school leaving certificate" please clarify.

Answer: We clarified that this fact is due to early school leaving (page 7).

Page 10, last line, please rephrase and clarify that this is for both genders.

Answer: We rephrased this part of the text as recommended (page 10).

Page 11, first line, I would suggest deleting "corresponding to the results of Table 3".

Answer: We also replaced this introductory sentence (page 10).

Page 13, line 12," that adopted a life stage-specific..." instead of an

Page 14, line 52, "...population and " delete and

Page 15, line 12, who could not take part instead of "who could not participate"

Page 15, line 40, "Instead, "comma

Page 15, last line, "In particular, " comma

Page 16, line 5, "further studies " delete comma

Page 16, line 12, "young seniors, " comma

Answer: Thank you very much for listing the errors. During revision we have corrected all of them.

Reply to the comments of Reviewer 2:

In my opinion I only find two minor sources of improvement:

- Compensate the effort dedicated to introduction and discussion.

The discussion of the results is much richer in references and theoretical questions than the introduction.

Answer: Thank you for this valuable comment. During revision we shifted several text passages from the discussion section to the introduction section, for example the state of research with respect to temporal trends in health inequality and

the rationale for focussing on life stages rather than age-groups (see page 5).

- Try to simplify the combined explanation of the age and sex factors.

Answer: After revision, we hope that the explanation of the combined effect of age and gender is more clearly in the discussion section under conclusions (see page 15).

Reply to the comments of Reviewer 3:

1) Authors have dichotomized the SRH score, one would prefer using the original scores due to loss of information in dichotomizing a variable.

Answer: Before starting the analysis, we have carefully weighted relevant pros and cons of dichotomizing the ordinal scaled SRH variable. We decided to accept the loss of information due to dichotomization since the illustration of temporal changes in terms of 'poor self-rated health' appeared to be more clearly and understandable than using the ordinal variable.

2) HRQOL scores are transformed aggregated scores and scoring manuals recommend using these original scores, why these scores where standardized.

Answer: We used the data from the German Socioeconomic Panel which provides only the standardized scores.

3) Education and income is expected to have a high correlation. Did the author consider the problem of multicollinearity.

Answer: We considered this problem by testing two models: one model without income as covariate and another including this variable. Since the results obtained did not substantially changed between model 1 and 2 we assumed that multicollinearity did not significantly affect our results.

Minor point:

There is a typo in the Table 1 (column 2002-2006 and age group 65-79).

Answer: Thank you very much for that advice, we deleted that error.