Response to Reviewer 2 Comments

1. Summary

Thank you very much for your careful and detailed review of the manuscript. Please find the detailed responses below and the corresponding revisions/corrections highlighted/in track changes in the re-submitted files.

2. Point-by-point response to Comments and Suggestions for Authors

Comments 1: In Table A3, why the P values (=.001) of the items "Decision between two" and "Attitudes of others" were not in bold? In Table A4, why the P values (=.009) of the items "Getting out and about" were not in bold?

Response 1: Thank you for pointing this out. These are formatting errors that we might have overlooked. We have changed the p-values into bold. – Table A3 and Table A4 (p. 23 f.)

Comments 2: In section 3.3, since the authors used the unstandardized regression coefficients, the symbol "β" should be changed into "b" to avoid being misunderstood.

Response 2: Thank you for this important comment. We have changed the coefficients to "b" to avoid misunderstandings. In addition, we have modified the titles of the columns in the corresponding tables and the notes. – section 3.3 and Table 3 (p. 10 f.), Table A5 (p. 25), Table A6 (p. 26 f.)

Comments 3: In lines 341-343, the authors said "However, a closer examination of the differences in thresholds between the two significant models in the two samples showed that most of the differences were less than 5%". Did it mean that "less than 5% number of items"?

Response 3: This wording could be misleading, thanks for pointing it out. It does not mean that less than 5% of the number of items are different. It means that the threshold values of the items do not differ by more than 5% between the samples and between the restricted models (p. 6, line 250 ff.: "We compared thresholds between the general population and the TBI sample for significant models, with minimal differences indicated if they did not exceed 5% [49,50]."). The difference between the estimated thresholds of the TBI sample and the general population sample of the first restricted model (thresholds model) was compared with the difference between the samples of the second restricted model (thresholds and loadings model). To avoid misunderstandings, we have provided the following changes:

p. 11, line 357 ff.:

> "However, a closer examination of the differences in thresholds between the two significantly differing models (i.e., thresholds model vs. thresholds and loadings model) in the two samples showed that most of the differences in thresholds were less than 5% (see Appendix - Figure A1)."

Comments 4: Besides, in Figure A2, what did the horizontal axis mean? the positive value meant which sample (?) was higher than the other sample (?) in the horizontal value? That is, please also

denote what the positive value of the horizontal axis means.

Response 4: The size of the threshold values is indicated on the horizontal axis. The filled dots in Figure A1 represent the difference in estimated thresholds between the general population sample and the TBI sample for the most restrictive model (thresholds and loadings model). The values of the TBI sample were subtracted from those of the general population sample. Therefore, positive values indicate that the estimated thresholds in the model were higher for the general population sample than for the TBI sample. The same applies to the differences of the thresholds model. To make this clearer in the manuscript, we have modified the explanation under the Figure A1.

p. 28, lines 634-638:

> "**Figure A1**. Comparison of the difference of the thresholds estimated within the thresholds model and the thresholds and loadings model between the general population sample and the TBI sample. T1 reflects the transition from "Not at all/Slightly" to "Moderately", T2 from "Moderately" to "Quite", and T3 from "Quite" to "Very". Positive values indicate a higher threshold value for the general population sample. Red points indicate a difference of more than 5%. *Reworded items."

Comments 5: In Table 5, the title "…for the general population" would be misunderstood since in line 366, those with chronic health conditions were not considered in Table 5. The title should be corrected for this point to avoid misunderstanding. Besides, the topic of the manuscript "…from a general population sample" should also be cautiously used.

Response 5: Thank you for pointing this out. We have modified the title of Table 5 to emphasize this point and to avoid misunderstandings. However, we do not feel the need to change the title because the subsample of individuals without chronic health conditions also belongs to the general pediatric population.

p. 15, line 406:

> "Reference values for the QOLIBRI-KID/ADO for the general population without chronic health conditions."

Comments 6: In line 399, "We present reference values stratified by age and gender". Please also denote it again in the websie https://reference-values.shinyapps.io/Tables_Reference_values/

Response 6: Thank you for bringing this to our attention. We have added more explanatory information.

Added to the website:

> "Below we present reference values for the German QOLIBRI-KID/ADO for children and adolescents stratified by age and gender. On the left side you can filter by gender, age group, and QOLIBRI-KID/ADO scales if necessary. On the right side is an example of how to interpret the table. 'Children' includes the age range from 8 to 12 years, 'Adolescents' includes the age range

from 13 to 17 years."

Comments 7: in the abstract, the authors said, "Reference values from a comparable general population are essential for comprehending the impact of TBI on health and well-being." How about adding to the report the percentages of the three zones (below 1 SD, between +-1 SD, and above 1 SD) for the TBI sample based on the Norm (general population, N=1748) in the manuscript? And some impacts or discoveries can be written out.

Response 7: Thank you for pointing out this important practical implication. We agreed that this was an interesting point to make, and we have added it to the manuscript.

Results:

p. 14, lines 402-405:

"If these reference values are applied to the TBI sample used in this study, 11.67% of the children and adolescents have a total score below the average (< -1 SD), 76% of the children fall within the average range (±1 SD), and 12.33% of the children are above the average range (> +1 SD)."

Discussion:

p. 18, lines 501-511:

"Applying the reference values to the TBI sample used in this study, approx. one out of nine children or adolescents has a total HRQoL below the average. In order to better interpret the impact of TBI on HRQoL, it is important to consider the rehabilitation process, because the need for receiving rehabilitation may negatively affect HRQoL [68]. Furthermore, the HRQoL is better associated with the absence or mild TBI [68]. Upon closer examination, it is evident that the participants in this TBI sample primarily experienced a mild TBI approximately 4.5 years prior, with most having achieved a good level of recovery (KOSCHI score of at least 5a). It is plausible that children and adolescents with more severe TBIs may have an even more compromised HRQoL, or that a greater number of children falls below the average. Further research is necessary to investigate the effects of severe TBI on HRQoL in children and adolescents."