

# What Does the EQ-5D-Y-5L Measure in Comparison to Other Generic Paediatric Health Related Quality of Life Instruments?

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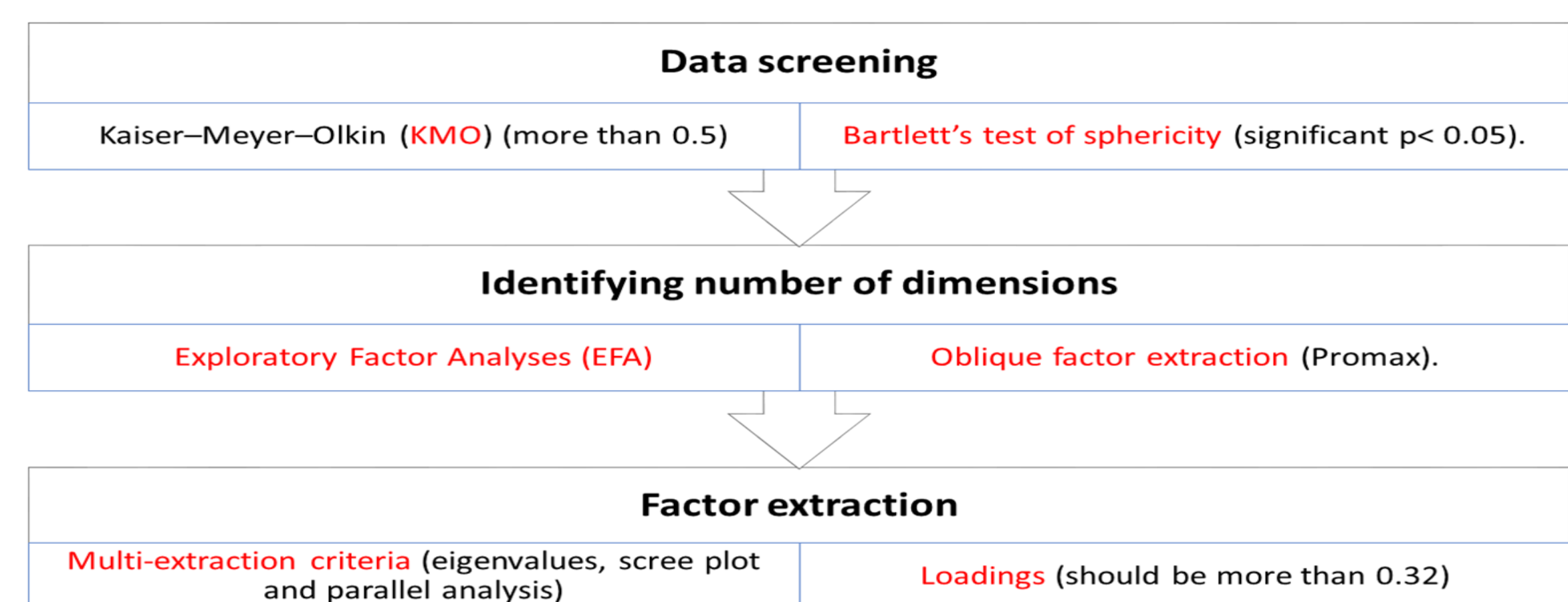
## OBJECTIVES

The EQ-5D-Y-5L (Y-5L) includes the same five dimensions of health-related quality of life (HRQoL) as the adult version. The Y-5L is one of several commonly used generic measures of child HRQoL, including the Health-Utilities-Index (HUI), Child-Health-Utility (CHU9D) and Paediatric Quality of Life Inventory (PedsQL).

These instruments are all measuring HRQOL. However, they differ in terms of how they measure HRQoL and what aspects are measured also there is little evidence on the measurement relationship between these instruments. This study aims to explore the measurement relationship between Y-5L, HUI, CHU9D and PedsQL.

## METHODS

All data were obtained from the first data cut, May 2022, of the Australian Paediatric Multi-Instrument Comparison Study (P-MIC)[1,2]. Exploratory factor analysis (EFA) was used to investigate the underlining dimensional structure for self-report and proxy-report separately. Items for EFA were pooled from all four instruments. The undertaken steps for EFA are as bellow:



## RESULTS

Of the 5444 children aged 5 to 18 years, a total of 1039 children and adolescents fully completed four instruments (EQ-5D-Y-5L, PedsQL, CHU9D, and HUI), of which 548 were parent/proxy report. The KMO was 0.93 and 0.95 for proxies and self-complete data respectively and both groups had a significant Bartlett test ( $p$ -value  $< 0.001$ ).

When applying EFA to the pooled model, additional domains not included in the Y-5L can be identified. Results suggest a six-factor structure for the proxy completed surveys and a six-factor structure for the self-report responses.

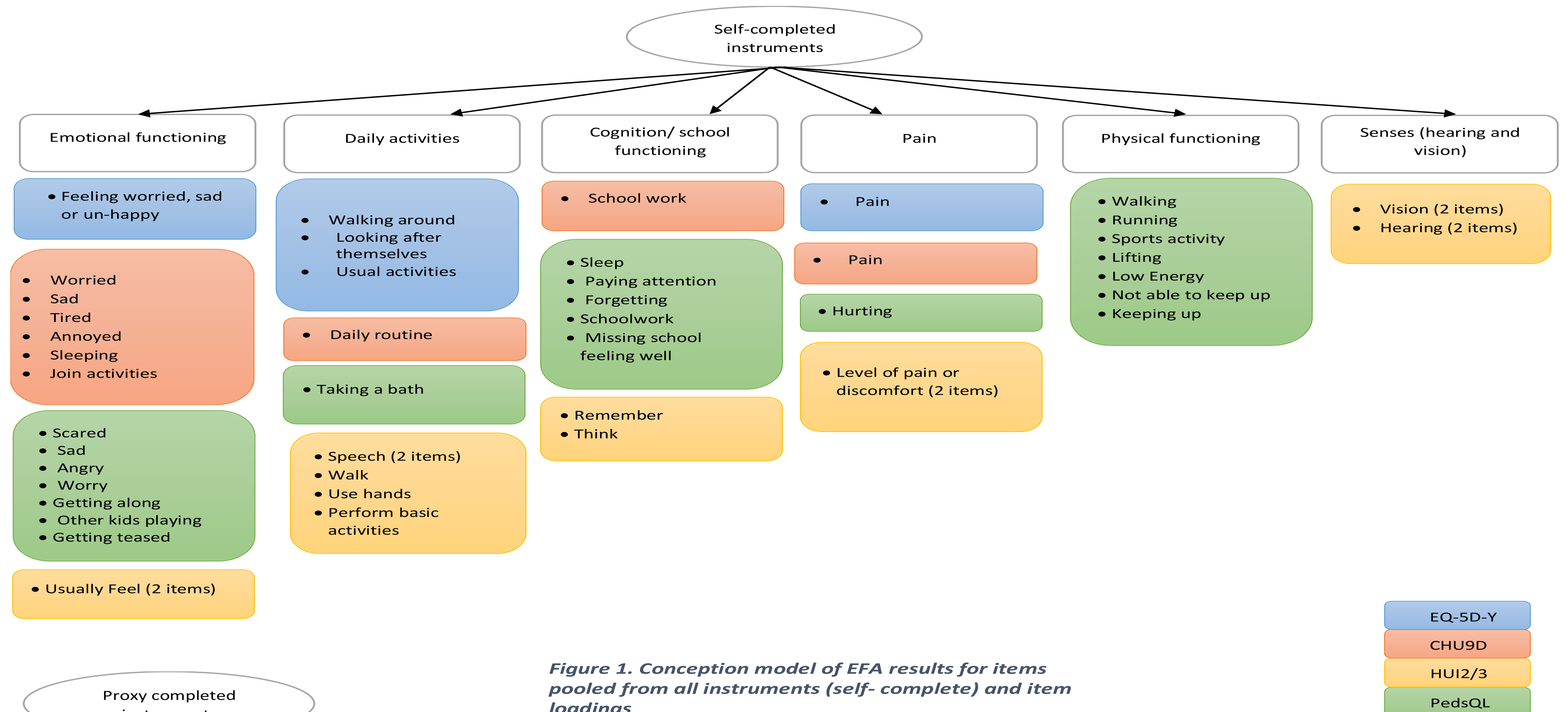


Figure 1. Conception model of EFA results for items pooled from all instruments (self-complete) and item loadings

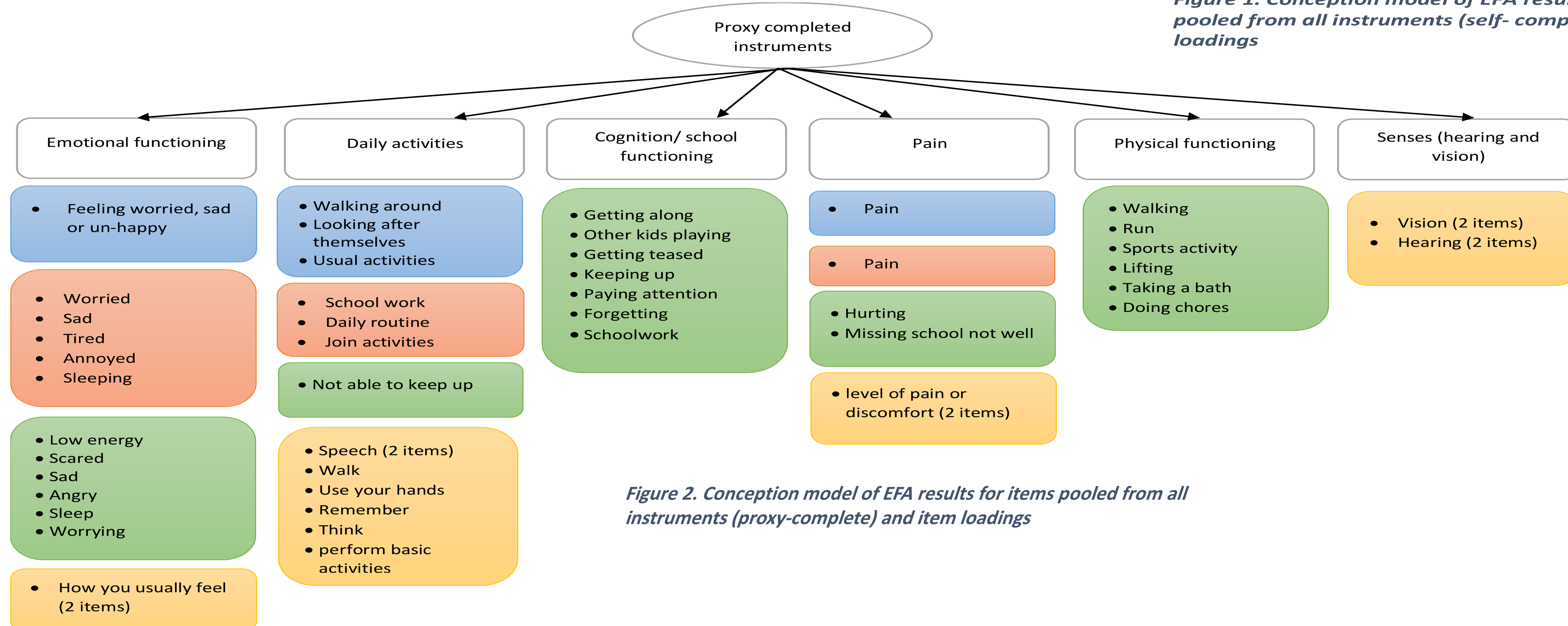


Figure 2. Conception model of EFA results for items pooled from all instruments (proxy-complete) and item loadings

Factors related to mental health, pain and daily activities were covered by the Y-5L; however, factors related to social functioning, school functioning and senses were not.

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## References

[1] Jones R, Mulhern B, McGregor K, Yip S, O'Loughlin R, Devlin N, Hiscock H, Dalziel K, On Behalf of The Quality of Life In Kids Key Evidence To Strengthen Decisions In Australia Quokka Project Team. Psychometric Performance of HRQoL Measures: An Australian Paediatric Multi-Instrument Comparison Study Protocol (P-MIC). Children (Basel). 2021; 8(8):714. doi: 10.3390/children8080714.

[2] PMIC technical paper cut 1: [https://www.quokkaresearchprogram.org/\\_files/ugd/ea8836\\_9b1a5d92b8ce4a089159522e5d3e8903.pdf](https://www.quokkaresearchprogram.org/_files/ugd/ea8836_9b1a5d92b8ce4a089159522e5d3e8903.pdf)



## CONCLUSIONS

This study provides information to guide choice of generic instrument when measuring particular domains of paediatric HRQoL.

The results suggest factors that may represent candidate items for Y-5L bolt-ons. Factor analysis can be a useful statistical method for identifying potential gaps and new dimensions for HRQoL instruments.