

# Performance of the EQ-TIPS and PedsQL in Infants and Toddlers with a Health Condition



JANINE, VERSTRAETE and LASSE, HERDIEN

Department of Paediatrics and Child Health, University of Cape Town, South Africa  
janine.verstraete@uct.ac.za



## BACKGROUND AND AIMS

Measurement of Health-Related Quality of Life (HRQoL) in infants/ toddlers is gaining importance. However, there is limited evidence on their performance.

The EuroQol Toddler and Infant Populations (**EQ-TIPS**) is an experimental instrument with ongoing development<sup>1</sup>. Currently, it includes 6 items (Fig. 1) scored on 3-levels of severity (no, some, and a lot of problems). A value set is not yet available. Thus, item scores are summed with a range of 6 - 18. A higher score indicates worse health. In addition, the EQ VAS measures general health from 0 (worst health) to 100 (best health).

The **PedsQL** measures HRQoL across physical, emotional, social and cognitive functioning<sup>2</sup>. The items are summed with a range of 0 - 100. A higher score indicates better health. For infants and toddlers there are age-specific versions for 1-12 months (36 items), 13-24 months (45 items) and 2-4 years (21items).

The aim of this study was to compare the performance of EQ-TIPS and PedsQL in children aged 0-4-years, with a health condition.

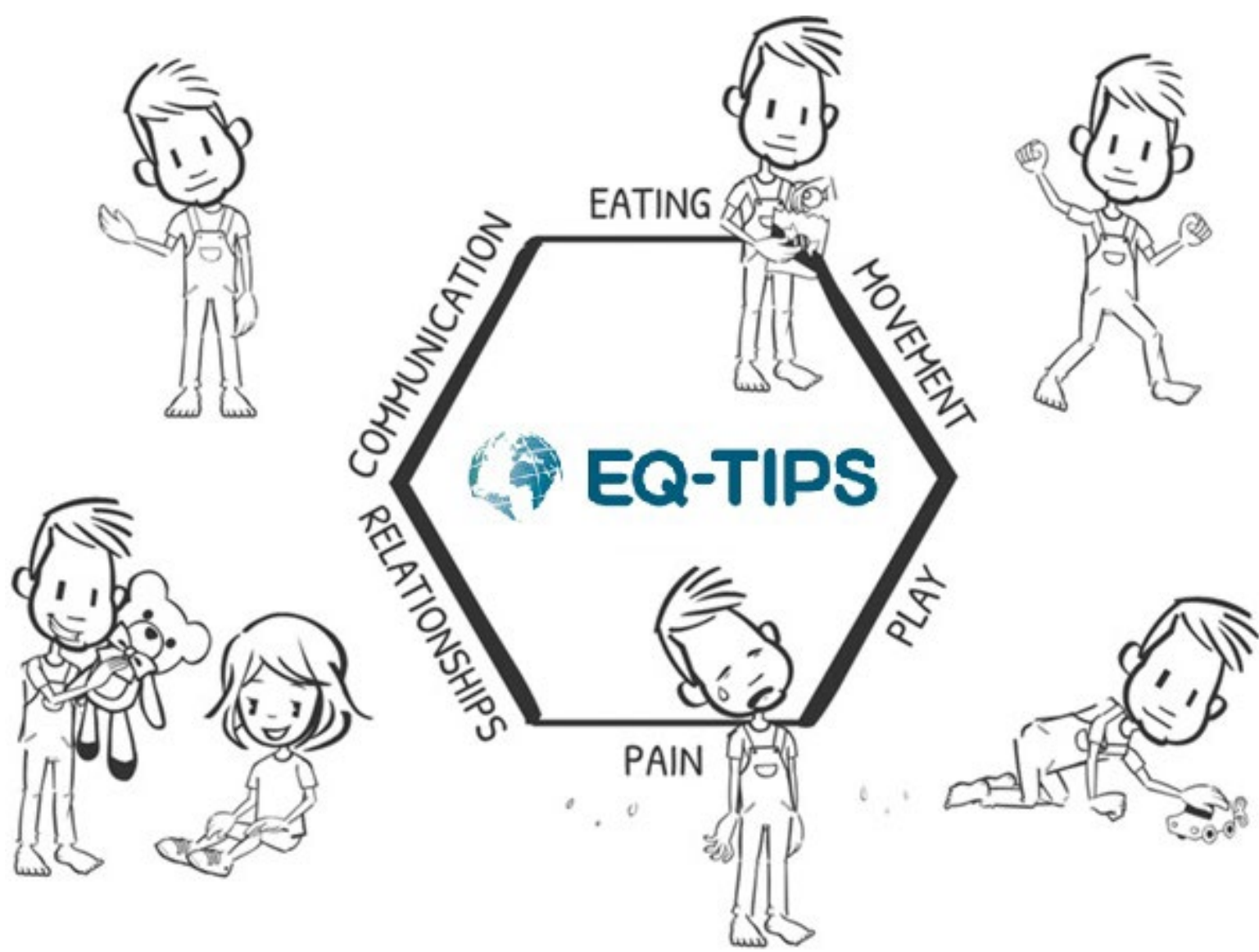


Figure 1. EQ-TIPS items

## METHODS

- Infants/toddlers aged 0-4 years, were recruited from a tertiary paediatric hospital in South Africa
- Caregivers completed the EQ-TIPS, PedsQL and disease-specific measures (not presented)
- Distribution of EQ-TIPS and PedsQL responses was compared
- The association of item and dimension/summary scores were computed with Pearson and Intra-Class Correlation co-efficient respectively

## RESULTS

- Preliminary data from 185 infants/toddlers were included
- Most children were males (n=108, 58%), aged 2-4-years (n=120, 65%)
- Caregivers were mostly mothers (n=153, 83%), with >1 child (n=125, 68%) and completed high school education (n=97, 52%)

## RESULTS

Figure 2. EQ-TIPS Frequency of Reported Problems by Item

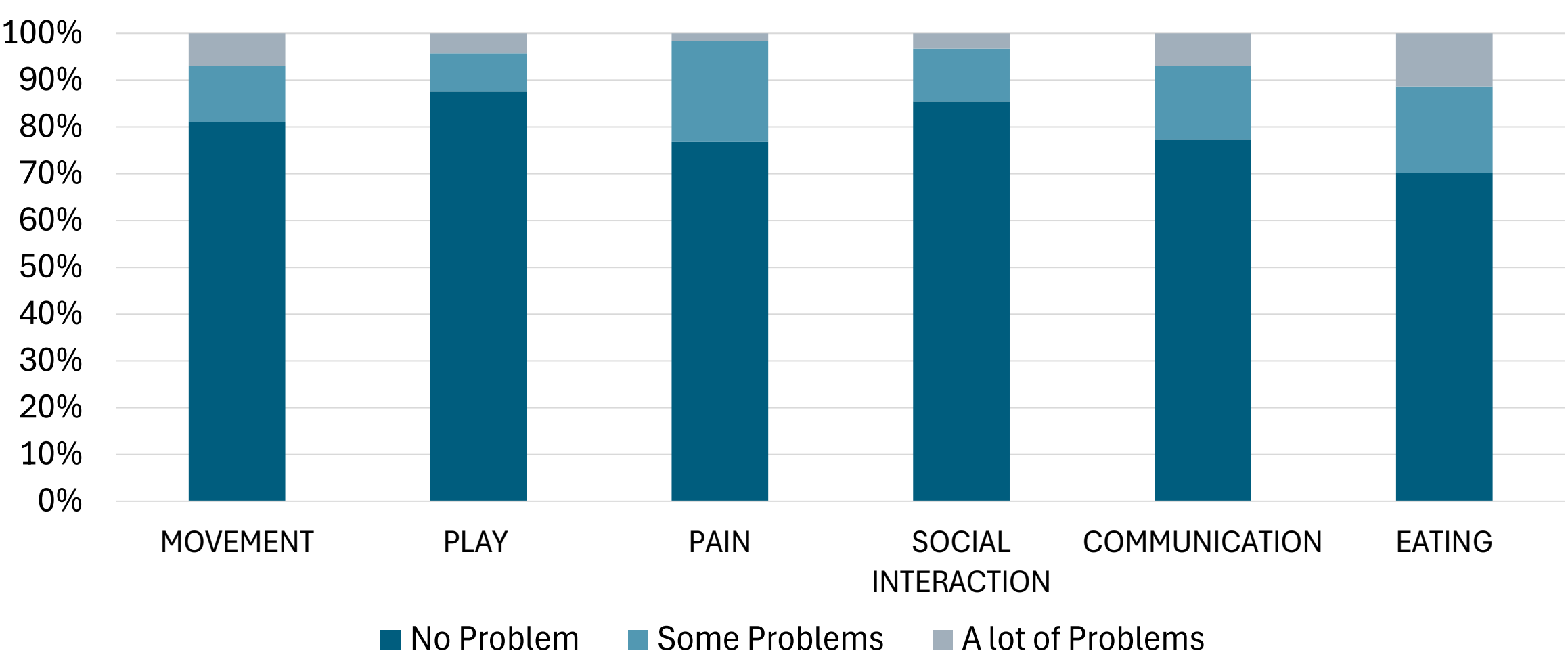
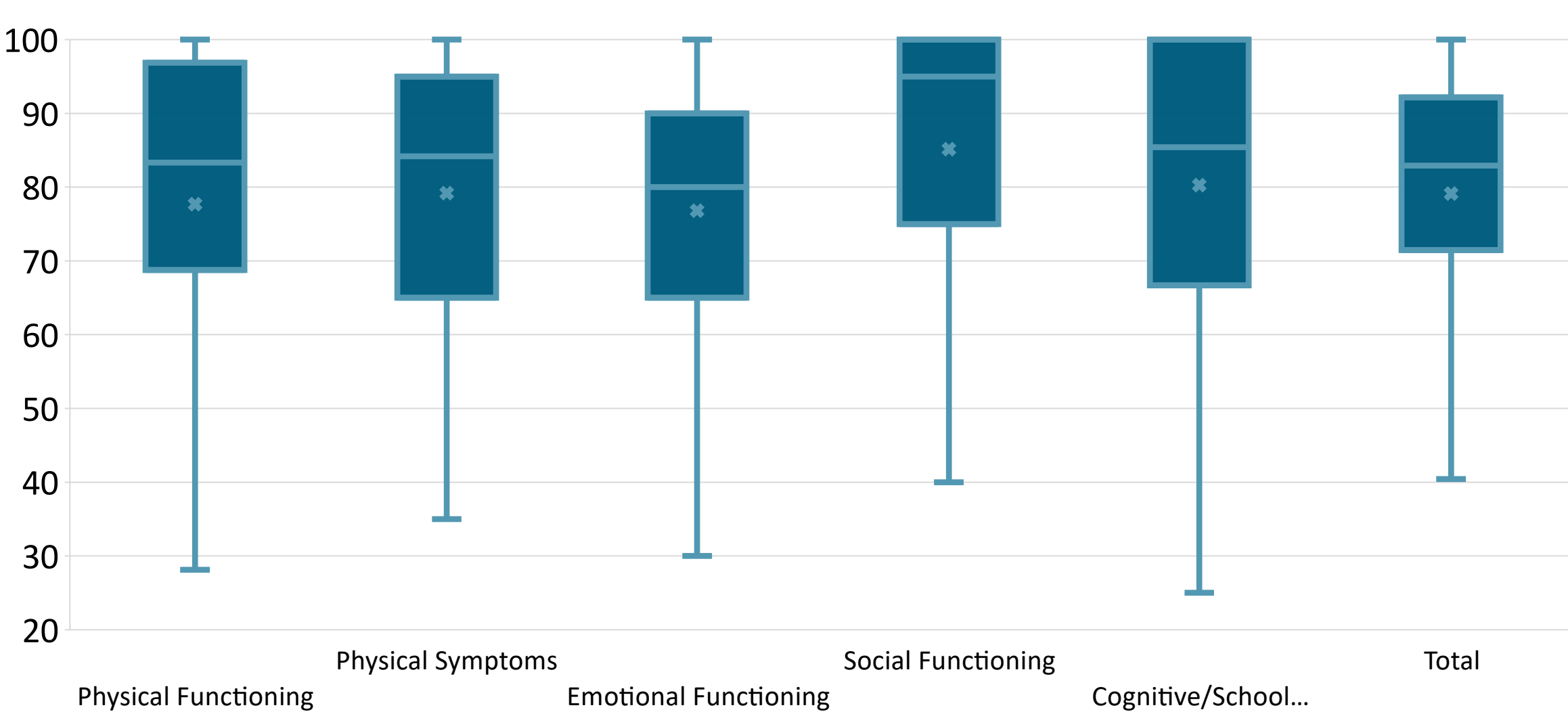


Figure 3. Boxplot of PedsQL Domain and Total Scores



EQ-TIPS and PedsQL similarly had the lowest report of problems for Play and Social interaction/functioning (Fig. 1 and Fig. 2).

The highest report of problems for EQ-TIPS was Eating, Pain and Communication. At an item level PedsQL had the highest report of problems for Crying/fussing when left alone, Feeling angry and Missing school to go to the doctor.

Table 1. EQ-TIPS and PedsQL Correlations

PedsQL	EQ-TIPS							EQ VAS
	Movement	Play	Pain	Social Interaction	Communication	Eating	Summary Score	
Physical Functioning	-0.54	-0.52	-0.38	-0.46	-0.37	-0.43	-0.70	0.44
Physical Symptoms*	-0.41	-0.37	-0.55	-0.23	-0.30	-0.58	-0.56	0.52
Emotional Functioning	-0.16	-0.14	-0.36	-0.31	-0.27	-0.25	-0.26	0.31
Social Functioning	-0.38	-0.38	-0.18	-0.57	-0.51	-0.30	-0.57	0.32
Cognitive/School Functioning	-0.21	-0.28	-0.08	-0.31	-0.29	-0.25	-0.56	0.23
Total	-0.44	-0.43	-0.35	-0.55	-0.47	0.42	-0.71	0.48

Included in the 1-12 month and 13-24 month modules only.  
Correlations >0.50 are shaded

The EQ-TIPS summary score showed high correlations with all PedsQL dimensions except Emotional Functioning (Table 1).

EQ-TIPS Pain and Eating were only associated with PedsQL Physical Symptoms. PedsQL Emotional and Cognitive/School Functioning scores were not strongly associated EQ-TIPS items, although strong associations were noted for the latter at an item level.

## CONCLUSIONS

The measures had a similar distribution of responses despite EQ-TIPS reporting for 'today' on a severity scale and PedsQL for the 'past one month' on a frequency scale.

EQ-TIPS Eating and Pain had a high report of problems and a strong association with PedsQL Physical Symptoms only. As Physical Symptoms are only included in the infant scales, the 13–24-month PedsQL scale may be more appropriate for older children, 2-4 years.

EQ-TIPS did not include any items associated with Emotional Functioning with frequent problems reported on the PedsQL. This may warrant consideration in further development of EQ-TIPS.

## REFERENCES

1. Verstraete J, Ramma L, Jelsma J. Validity and reliability testing of the Toddler and Infant (TANDI) Health Related Quality of Life instrument for very young children. Journal of Patient-Reported Outcomes. 2020;4(1).
2. Varni JW, Limbers C a, Neighbors K, Schulz K, Lieu JEC, Heffer RW, Tuzinkiewicz K, Mangione-Smith R, Zimmerman JJ, Alonso EM. The PedsQL™ Infant Scales: feasibility, internal consistency reliability, and validity in healthy and ill infants. Quality of life research. 2011;20(1):45–55.