

Cartas científicas

Validity of a physical activity questionnaire used with parents of preschool children in Mexico

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Several studies have used accelerometers to evaluate the validity of different types of questionnaires used by parents to assess preschoolers' Physical Activity (PA).¹⁻³ However, we have found no validated tools to assess usual PA among pre-school children in Mexico. The aim of this study was to assess the validity of a physical activity questionnaire developed for use by parents of Mexican preschool children. An eight-item questionnaire was developed for and completed by parents on the days that the

children wore the accelerometers. One additional qualitative question was asked to assess parents' overall perception of the child's typical PA level. Thirty-five preschoolers who wore the accelerometer for at least 10 hours daily on 3 weekdays and one weekend day were included in the analyses. Time spent in activities of varied intensity was calculated by applying 15-second accelerometer count cutoffs (ACC). To evaluate the validity of the questionnaires, Spearman correlations were used to compare

Table I
Correlation coefficients between percentages of time spend in different PA intensities and perception of child activity according to questionnaire responses and ActiGraph count cutoffs

| Parents Q | | Accelerometer Data | | | | | | | | |
|-------------------------------|-----|-------------------------|-------|--------|--------|-------------------|-------|-------|-------|-------|
| | | ACC Sirard et al., 2005 | | | | Pate et al., 2006 | | | | |
| PA | | S | L | M | V | MV | S | M | V | MV |
| S | Rho | 0.35 | -0.28 | 0.11 | -0.40 | -0.50 | 0.34 | 0.05 | -0.37 | -0.34 |
| | P | 0.04 | 0.11 | 0.56 | 0.02 | 0.003 | 0.05 | 0.8 | 0.03 | 0.05 |
| M | Rho | -0.31 | -0.07 | -0.23 | 0.40 | -0.13 | -0.27 | -0.07 | 0.34 | -0.04 |
| | P | 0.07 | 0.72 | 0.18 | 0.02 | 0.47 | 0.12 | 0.67 | 0.05 | 0.80 |
| V | Rho | -0.62 | 0.34 | 0.40 | 0.53 | 0.54 | -0.45 | -0.02 | 0.41 | 0.37 |
| | P | 0.0001 | 0.05 | 0.02 | 0.001 | 0.001 | 0.008 | 0.92 | 0.01 | 0.03 |
| MV | Rho | -0.34 | 0.28 | 0.31 | 0.61 | 0.49 | -0.13 | 0.03 | 0.43 | 0.34 |
| | P | 0.05 | 0.11 | 0.07 | 0.0001 | 0.003 | 0.40 | 0.80 | 0.01 | 0.05 |
| Perceptions of child activity | Rho | -0.45 | 0.32 | 0.57 | 0.50 | 0.62 | -0.35 | 0.25 | 0.47 | 0.35 |
| | P | 0.007 | 0.06 | 0.0001 | 0.003 | 0.0001 | 0.04 | 0.16 | 0.006 | 0.04 |

S = Sedentary; L = Light; M = Moderate; V = Vigorous; MV = Moderate + Vigorous.

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percentages of different intensity PA assessed by the questionnaires with the percentages of PA obtained from accelerometer cutoff points.^{4,5} The mean age of the children was 4.4 y (range 3-5 y), the mean BMI was 15.8 kg/m² (10.8-21.7). The recorded mean time of accelerometer use was 11h/d for an average of 3.8 weekdays and 1.6 weekend days. Parents' perceptions of their children's PA were associated with the

percentage of vigorous and moderate physical activity recorded with ACC, $r = 0.62$ ($P = 0.0001$). An association was shown between the percentage of child's time spent in vigorous PA, as reported by parents, with that measured by ACC, $r = 0.53$ ($P = 0.001$) and a good correlation using Sirard⁴ and Pate⁵ cutoff points (table I). This study shows that responses to the questionnaire on parents' perceptions of their children's PA were moderately associated with the moderate and vigorous PA recorded with ACC, $r = 0.62$ ($P = 0.0001$). In addition, children who were shown by ACC to spend more minutes per hour on light, moderate and vigorous PA, and less time in sedentary activities, were more likely to be perceived as active by their parents. This result indicates that the parents' questionnaire provides a fair estimate of pre-school children's PA in this group of children in México. Other studies using different questionnaires have shown similar results.^{1,3} Results of this study suggest that the questionnaire is a useful tool for assessing children's activity.

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