Association between the process and the product of the basic throw and jump movement patterns

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Characteristics of evaluation instruments

PROCESS: They assess the characteristics of the gesture. Example how the event occurs, or the coordination of the trunk and limbs during the execution of the movement (Jiménez et al., 2013).

PRODUCT: They *evaluate* the <u>outcome</u> of the **motor gesture. E**xample how fast the person runs, or jumps (Jiménez et al., 2013).

Purpose was to analyze the association between product tests and process tests in jumping and throwing skills.

Throw

• The levels in the launching development sequence predict 69-85%, the speed of the ball in children aged 6-13 years (Roberton & Konczak, 2001).

Jump

• The levels in the sequence of development of the jump, predict 22%, in the length of the jump (Haubenstriker & Branta, 1997).

Results

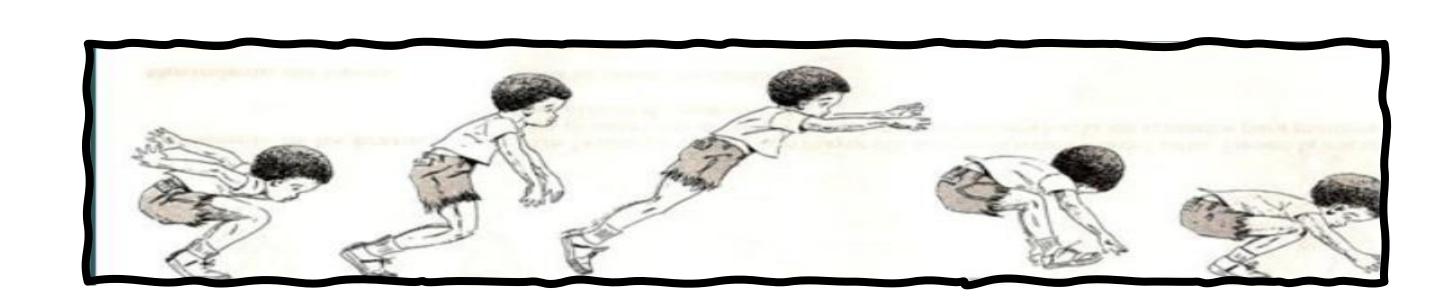
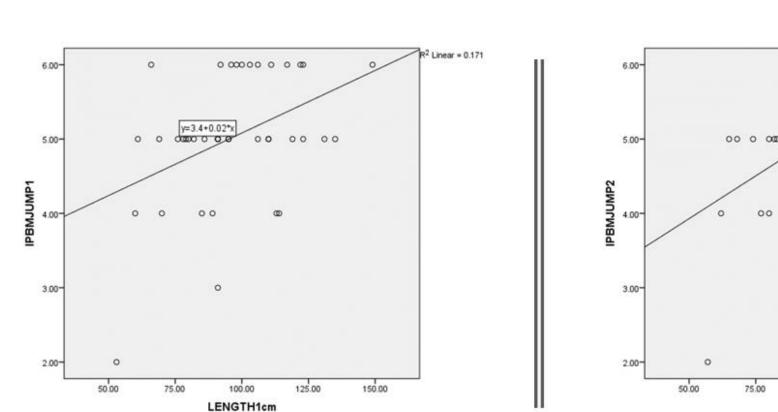


Table 1. Correlations between product and process in jumping and throwing

Variables	Tried 1	Tried 2
Jump	.413**	.562**
Process/Product		
Throw		
Proces/Product	.104	.311

**p < 0.01



Jump correlations**

Methodology

Design: Descriptive correlational.

<u>Subjects:</u> 40 children age 10.03 ± 0.3 years, weight 37.82 ± 13.9 kg, height 139 ± 28 cm, BMI 19.38 ± 4.5 kg/m². Eligibility criteria: children without mental or physical disabilities, schooling, who voluntarily agreed to collaborate with the study and who gave informed consent and assent.

Instruments:

Process: Basic Movement Patterns Test (IPBM) (Jiménez-Díaz et al., 2015), was applied to launch (r = .915) and to jump (r = .821).

Product: in launching the speed was recorded in km / h and in jumping the length in cm of the jump was recorded.

Procedures: The children performed the skills in order to jump and throw. They were recorded with video from a side view. In launching the camera it was located on the launch side. After the researcher demonstrated each skill, the children made three attempts to warm up each skill. In addition, participants were asked to execute with maximum effort. One registration instrument was used per group, to guarantee the same order of

Statistic analysis: r Pearson correlation.

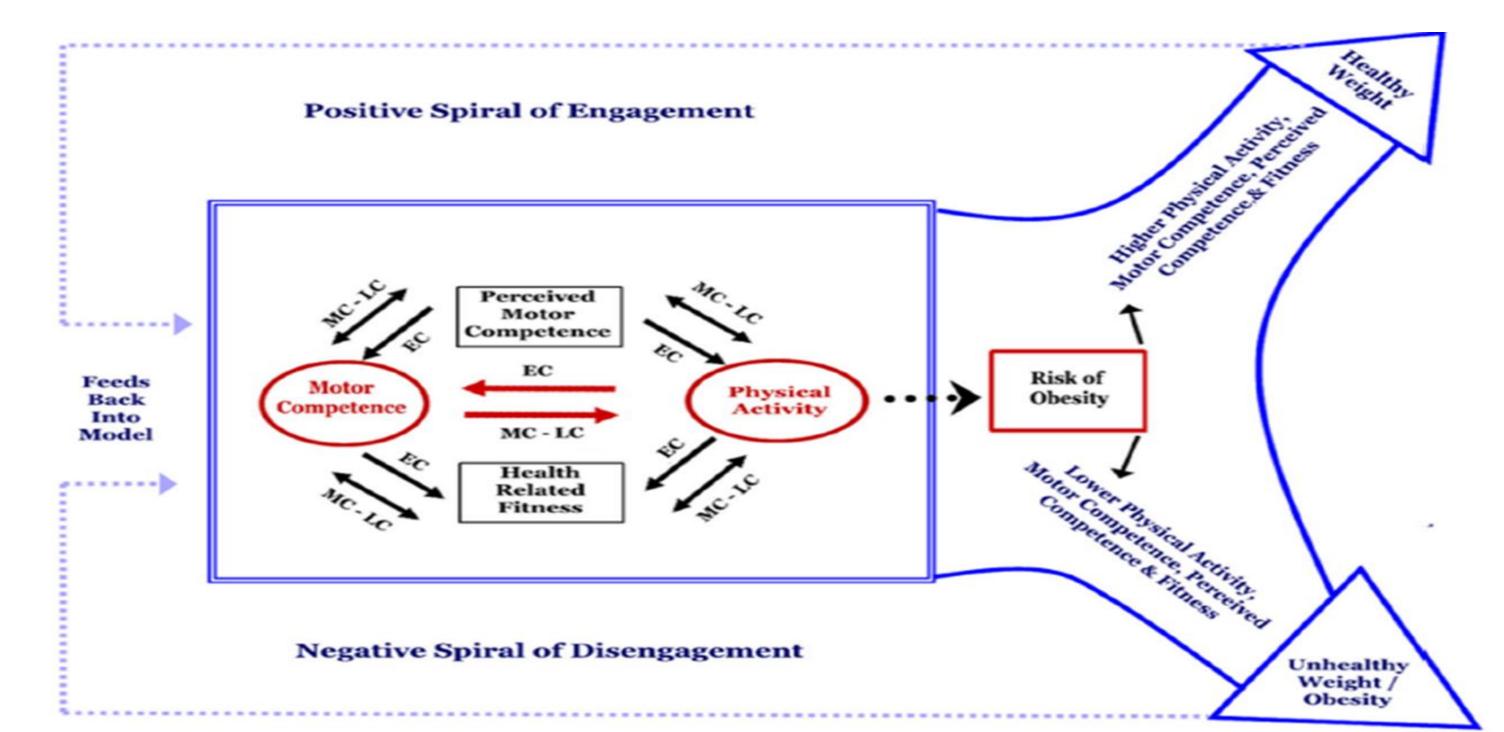
execution in both tests.

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Discussion

Developmental mechanisms that influence the trajectories of physical activity in infants (Stodden et al., 2008)



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Practical Implications

- 1.Do not **assume** that the improvement in process is an improvement in product.
- 2. The positive and significant correlation is not directly associated with an association between changes.

References

Barnett, L. M., Lai, S. K., Veldman, S. L. C., Hardy, L. L., Cliff, D. P., Morgan, P. J., ... Okely, A. D. (2016). Correlates of Gross Motor Competence in Children and Adolescents: A Systematic Review and Meta-Analysis. *Sports Medicine*, 46(11), 1663–1688. https://doi.org/10.1007/s40279-016-0495-z Logan, S. W., Barnett, L. M., Goodway, J. D., & Stodden, D. F. (2017). Comparison of performance on

Logan, S. W., Barnett, L. M., Goodway, J. D., & Stodden, D. F. (2017). Comparison of performance on process- and product-oriented assessments of fundamental motor skills across childhood, *35*(7), 634–641.

Meester, A. De, Stodden, D., Brian, A., True, L., Cardon, G., Tallir, I., & Haerens, L. (2016). Associations among Elementary School Children's Actual Motor Competence, Perceived Motor Competence, Physical Activity and BMI: A Cross-Sectional Study, 1–14. https://doi.org/10.5061/dryad.96cp2

Robinson, L. E., Stodden, D. F., Barnett, L. M., Lopes, V. P., Logan, W., Rodrigues, L. P., & Hondt, D. (2015). Motor Competence and its Effect on Positive Developmental Trajectories of Health. *Sports Medicine*. https://doi.org/10.1007/s40279-015-0351-6

