

movements of the sheet (external focus). Compared to a baseline condition (no touch), both touch conditions resulted in increased postural sway. However, frequency of responding (FFT) was greater under the external focus condition, compared to both internal focus and baseline conditions. The findings indicate improved static balance responses under external focus conditions and compromised static balance responses under internal focus conditions.

Time-Scales and the Changing Structure of Infant Postural Sway: A Longitudinal Study

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By the end of the first year of life, infants accomplish the challenging task of independent stance and locomotion. Within a few months they show dramatic refinements in the control of posture. Though many researchers have documented an array of changes leading toward mature function, the question of what underlies these changes remains largely unanswered. Advances in the understanding of adult posture provide ways of analyzing the changing control mechanisms of the infant postural system. This study was aimed at characterizing the stochastic structure of infant posture in an independent standing task. Five infants were examined longitudinally from walking onset until 6 months of walking experience. Averaged center of pressure stabilogram-diffusion functions were computed from 3 trials in which the infants stood quietly for a maximum of 60 seconds. A two-piece linear model was fit to the diffusion functions, and parameters were extracted that index variations in the sway structure across time-scales from 0 to 10 seconds. Broadly, two temporal regions of the diffusion functions have been identified that define time-scales within which sway is either positively (short term, D_s) or negatively (long term, D_l) correlated with itself. We focused on the slopes of two portions of the linear fit (D_s & D_l), as well as the time (T_c) that indexed the inflection between the two regions. Significant age-related trends for D_s ($p < 0.05$) and T_c ($p < 0.01$) indicated that these infants increased the effective amount of stochastic activity across short time-scales but not long ones. These results indicate that during the first 6 months of independent walking, infants develop a prospective understanding of their permissible sway region. Discussion focuses on implications of these results for understanding and modeling the control properties of infant posture.

Structural and Latent Mean Stability of Achievement Goals

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The present study examined the temporal stability (i.e., structural, differential, latent mean) of a sport-specific adaptation of Elliot and Church's (2001) 2 x 2 achievement goals questionnaire (AGQ-S) scores. Recreational athletes ($N = 356$) at a large university completed the AGQ-S four times over a 3-week interval for extra credit in exercise activity classes. Assessment of structural stability followed Meredith's (1993) hierarchy of increasingly stringent evaluation of factorial invariance. Five separate models were fitted: one for each of the four achievement orientation scales (i.e., mastery-avoidance, mastery-approach, performance-avoidance, and performance-approach) and one for the full model. Each of the four achievement goal factors and the full model achieved adequate fit under strict factorial invariance constraints. Differential stability coefficients obtained from strict FI models supported weak to moderate test-retest reliability of achievement goal scores across all possible lags. To assess latent mean stability, we employed latent growth curve modeling (LGCM; Sayer & Cumsille, 2001) to each of the four achievement orientation scales. "No growth" LGCM demonstrated adequate fit for all but one achievement goal factor; how-

ever, models with a specified linear slope trajectory fit significantly better. Evaluation of "linear" LGCM revealed small but statistically significant negative parameter estimates for the mean slope for all achievement goals ($p < .01$ for all). Although differential stability and LGCM analyses both suggest that AGQ-S scores are not perfectly stable over short periods of time, LGCM analyses were able to discern that the magnitude of change over 3 weeks was negligible from a practical perspective. The results of the current study support the temporal stability of AGQ-S scores, and researchers should be confident in using the measure to evaluate influences on the development of 2 x 2 achievement goal orientations as well as longitudinal effects of 2 x 2 achievement goal orientations.

Relationship of Fitness Level and Cognitive Function in Children From Botswana

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Today the importance of a physically active lifestyle is receiving increased attention. A major benefit of physical activity for an older population is improved information processing and cognitive performance, but the role of fitness in children's information processing and cognitive performance has not been studied. If fit children can attend to classwork more effectively, their academic development is enhanced. This study investigated the relationship between processing information and fitness level of active (fit) and sedentary (unfit) children drawn from rural and urban areas in Botswana. It was hypothesized that fit children would display faster RT and MT than less fit children, and also a longer memory span. Sixty 3rd-grade children ages 8 to 9 years were selected based on fitness testing (20 fit urban, 20 unfit urban, 20 fit rural). All children completed anthropometric and skinfold testing in addition to a submaximal bicycle ergometer test. The main independent variable was fitness level (fit rural, fit urban, unfit urban). The cognitive testing included simple and choice RT and a memory span test with dependent variables being mean simple and choice RT and movement sequence length. The results indicated that the rural fit group exhibited a faster MT than the urban fit and unfit groups. For choice RT, both fit groups were faster than the unfit group. There were no between-group differences for movement sequence length. In sum, the study shows that the relationship between physical fitness and cognitive function among the elderly can tentatively be extended to a pediatric population. Physical fitness could be a factor in speed at which we process information, including decision-making, even in children.

The Effect of a 10-Week Resistance Training Program on Self-Esteem and Physical Self-Worth

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Previous research has shown that global self-esteem, physical self-worth, and subdomains of physical self-worth can be influenced by cardiovascular training, and that these changes fall in line with the hierarchical model of exercise and self-esteem (EXSEM) set forth by Sonstroem and Morgan (1989). The purpose of the present study was to determine whether these relationships held for resistance training. The model was tested with the Physical Self-Perception Profile (PSPP) and the Rosenberg Self-Esteem Scale (RSE). Participants were 120 undergraduates (85 M, 35 F) enrolled in a 12-week weight training class that utilized free weights and Olympic lifts. Participants completed 1-RM lifts for bench and squat, along with the RSE and PSPP, prior to beginning weight training and following 10 weeks of training. Significant increases were seen in all measures. In addition, the predicted hierarchical pattern of change across time was generally observed. Physical changes, 17.63% improvement for bench press and 25.54% for squat, outpaced the changes in PSPP