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ABSTRACT BOOK

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self-efficacy and gender are two good criteria measures. Reliability analysis in the three studies showed that this 14-item Spanish version had high internal consistency. Taken together, the results of the three studies support the application of the SLSS in future research. Email: Manuel Martin-Fernandez, manuel.martinf@inv.uam.es

(95)

The PCL-R: Its Dimensionality, Reliability, and Adjudication, Revisited.

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There has been no shortage of disharmony, amongst researchers, in respect of the issue of the structure of the Psychopathy Check List-Revised (PCL-R), prior studies having yielded, as an estimate of the test's dimensionality, numbers lying within the range two to seven. However, there are good reasons for doubting the relevance of these previous results to an adjudication of the test's performance, chief among them, the fact of their resting on a sense of dimensionality-the linear factor analytic sense- inconsonant with the test's theoretical structure. Herein, we reconsider, afresh, the issue of the performance of the PCL-R, through the undertaking of a test analysis that accords with the principles of modern, sequential, test analysis. Accordingly, we tested the unidimensionality of the PCL-R items under the unidimensional monotonic latent variable model. In a sample of 176 offenders newly admitted to correctional services in British Columbia and the Yukon Territory, results indicated that only one of the off-diagonal elements of the sample covariance matrix was negative; consequently, the hypothesis of associatedness was retained. A graphical and quantitative description of the 190 Mantel-Haenszel statistics computed is presented. The mean of these statistics was .707, 32.1% were negative, and only one resulted in a rejection of its corresponding null hypothesis. We concluded that, in the population under consideration - the PCL-R is, in fact, unidimensional, and, hence, compositable. A lower bound to the reliability of the optimal linear composite is estimated as .75.

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(96)

Does Chess Training Improve Some Cognitive Abilities in Children? A Meta-Analytic Study.

PILAR TORIL, *Departamento de Psicología Básica II (UNED)*, JOSÉ MANUEL REALES, ELENA SAIZ, *Departamento de Metodología de las Ciencias del Comportamiento (UNED)*, SOLEDAD BALLESTEROS, *Departamento de Psicología Básica II (UNED)*.

There is a great interest nowadays on the effects of chess training in children's formal education based on its proposed improvement of several cognitive abilities. Due to this interest, several countries are planning to integrate chess training into the school curriculum. However, there is not yet an empirical measure of the beneficial effects of playing chess on school achievements. To assess the median effects of chess training on school achievement and the moderator variables that modulate the effect, we conducted a meta-analytic study with pre-post published intervention studies conducted with children and teenagers. We found 10 original studies that fulfilled all the criteria and we analyzed them with Comprehensive Meta-

analysis program. The results showed that effect is middle in Cohen's term. Moreover, the results showed that chess training can improve some aspects of the scholar skills as reading and mathematical abilities. These results might have educational impact and allow us to ascertain precisely the educational benefits if chess training is included in the formal education. Importantly, the results of the present meta-analysis allow us to compare these benefits with those of others non-chess interventions such as music or computer programming.

Sensation and Perception

(97)

Effects of Binaural Beat Stimulation on Sustained Attention in Scholar Children.

MICHELE CAGOL, DEMIS BASSO, *Free University of Bozen-Bolzano*.

Binaural beats are amplitude-modulated signals occurring when two sine waves with slightly different frequencies are presented separately to either left and right ears. Despite the physical separation of the two sounds, but thanks to the activity of brainstem neurons in the superior olivary nucleus, listeners perceive a rhythmic sound with a beat frequency equal to the difference between the frequencies of the two waves. Binaural beat stimulation within the EEG frequency range seems to be a non-invasive methodology to influence brain activity and to affect states of consciousness, psychomotor performances, and mood. This research is aimed at investigating the effects of binaural beat stimulation (in the EEG low gamma and theta frequency ranges) on performance of a sustained attention task in primary school children. Each participant performed a 10-minutes visual task for three sessions: one involving binaural beats with theta frequency (5 Hz), one with low gamma frequency (40 Hz), and one with no binaural beat stimuli (as control condition). EEG activity was measured for each condition. Results showed that low gamma binaural beat stimulation, compared to theta and control conditions, has improved children's performance in the sustained attention task. Moreover, low gamma band neural activity increased its amplitude, corresponding to the auditory stimulation in this band. This pattern suggests that this technology may represent a non-invasive method to enhance children's attention (i.e.: during homework).

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(98)

Isolating the Influence of Stimulus Expectancy on Duration Estimation: Evidence from Self-Generated Expectations.

TERESA BIRNGRUBER, HANNES SCHRÖTER, ROLF ULRICH, *University of Tübingen*. Previous studies have shown that the duration of unlikely stimuli is judged to be longer than the duration of likely stimuli. This effect has been attributed to stimulus expectancy. One drawback of this traditional approach is that it implicitly presupposes that stimulus probability only affects expectation. Here we introduce a novel paradigm that isolates the effect of stimulus expectation on perceived duration. To this end, participants were instructed to vocalize their stimulus expectations on each trial. In a temporal bisection task, blue and yellow disks of varying durations (280 - 920 ms) were presented and the