

PT J

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TI Psychometric comparison of the Motivation Assessment Scale (MAS) and the Questions About Behavioral Function (QABF)

SO JOURNAL OF INTELLECTUAL DISABILITY RESEARCH

AB Background The Motivation Assessment Scale (MAS) and the Questions About Behavioral Function (QABF) are frequently used to assess the learned function of challenging behaviour in people with intellectual disability (ID). The aim was to explore and compare the psychometric properties of the MAS and the QABF. Method Seventy adults with ID and challenging behaviour and their disability support workers participated in the study. Support workers completed the MAS and QABF regarding a challenging behaviour that they identified as causing most concern.

Results Both measures demonstrated good internal consistency. Based on the intra-class correlation coefficient, inter-rater reliability of the MAS and QABF was acceptable for sub-scale scores, but not for individual items. Convergent validity, as reflected by correlations between functionally analogous scales, was satisfactory, but there was low agreement between the MAS and QABF on the function of challenging behaviour. Factor analysis of the QABF revealed factors that clearly corresponded to the five factors reported by the developers, four of which were well determined. Similar analyses of the MAS yielded a four-factor solution, however, only one factor was well determined.

Conclusion The psychometric properties of the MAS and QABF were similar, and item-by-item reliability was problematic. The results suggest that both measures may prove unreliable for assessing the function of challenging behaviour among adults with ID. In developing interventions to address challenging behaviour, other techniques (e.g. observations) should be used to supplement information from these measures.

PD AUG

PY 2013

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IS 8

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ER

PT J

AU Johnson, DP

Whisman, MA

AF Johnson, Daniel P.

Whisman, Mark A.

TI Gender differences in rumination: A meta-analysis
SO PERSONALITY AND INDIVIDUAL DIFFERENCES

AB Starting in adolescence and continuing through adulthood, women are twice as likely as men to experience depression. According to the response styles theory (RST), gender differences in depression result, in part, from women's tendency to ruminate more than men. A meta-analysis was performed to evaluate gender differences in rumination in adults ($k = 59$; $N = 14,321$); additionally, an analysis of subtypes of rumination - brooding and reflection - was conducted ($k = 23$). Fixed effects analyses indicated that women scored higher than men in rumination ($d = .24$, $p < .01$, $SEd = .02$), brooding ($d = .19$, $p < .01$, $SEd = .03$) and reflection ($d = .17$, $p < .01$, $SEd = .03$); there was no evidence of heterogeneity or publication bias across studies for these effect sizes. Although statistically significant, the effect sizes for gender differences in rumination were small in magnitude. Results are discussed with respect to the RST and gender differences in depression. (C) 2013 Elsevier Ltd. All rights reserved.

PD AUG
PY 2013
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ER

PT J
AU Woodley, MA
Madison, G
AF Woodley, Michael A.
Madison, Guy

TI Establishing an association between the Flynn effect and ability differentiation

SO PERSONALITY AND INDIVIDUAL DIFFERENCES

AB The relationship between the Flynn effect and ability differentiation is investigated in a reanalysis of published data on Estonian student cohorts tested in 1933/36, 1997/98 and 2006 on the National Intelligence Test (Must, te Nijenhuis, Must, & van Vianen, 2009). To determine whether there was a relationship we computed the vector correlation between the Flynn effects (d) and the change in the g loading (Delta g) between measurement occasions for each of the 10 NIT subtests and for each of the seven cohort comparisons, giving a total N of 70 effect sizes. The association between d and Delta g was robustly negative (indicating that the Flynn effects were negatively associated with changes in the g loading of subtests) for all cohort comparisons, with values of r ranging from $-.100$ to $-.461$ ($N = 10$). When all effect sizes were analyzed together, the vector correlation was found to be $-.281$ (p

$\leq .05$, $N = 70$). This indicates a significant association between the Flynn effect and ability differentiation. Possible causes of this association are discussed. (C) 2013 Elsevier Ltd. All rights reserved.

PD AUG

PY 2013

VL 55

IS 4

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ER

PT J

AU Coyle, TR

Rindermann, H

AF Coyle, Thomas R.

Rindermann, Heiner

TI Spearman's Law of Diminishing Returns and national ability

SO PERSONALITY AND INDIVIDUAL DIFFERENCES

AB This research examined Spearman's Law of Diminishing Returns (SLODR)

using national ability as the unit of analysis. National ability was

estimated using international standardized tests such as the Programme

for International Student Assessment (PISA), Trends in International

Mathematics and Science Study (TIMSS), and Progress in International

Reading Literacy Study (PIRLS). Factor analysis estimated the national G

loadings of tests for high and low ability nations. Consistent with

SLODR, the G loadings of tests were lower for higher ability nations.

The pattern was confirmed after correcting for school attendance and age

biases. Because a test's g loading is directly related to its predictive

validity (correlation with outcomes), our results imply that the

predictive validity of tests may be lower for higher ability nations.

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PY 2013

VL 55

IS 4

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ER

PT J

AU Wuang, YP

Chang, JJ

Wang, MH

Lin, HC

AF Wuang, Yee-Pay

Chang, Jyh-Jong

Wang, Min-Hung

Lin, Hsiu-Ching

TI Test retest reliabilities of hand-held dynamometer for lower-limb muscle strength in intellectual disabilities

SO RESEARCH IN DEVELOPMENTAL DISABILITIES

AB The primary purpose of this study was to investigate the test-retest reliabilities of hand-held dynamometer (HDD) for measuring lower-limb muscle strength in intellectual disabilities (ID). The other purposes were to: (1) compare the lower-limb muscle strength between children with and without ID; (2) probe the relationship between the muscle forces and agility performance in ID; and (3) explore the factors associated with muscle strength in ID.

Sixty-one participants (30 boys and 31 girls; mean age = 14.1 +/- 3.3 year) were assessed by the HDD using a "make" test. The comparative group consisted of 63 typically developing children (33 boys and 30 girls; mean age = 14.9 +/- 2.1 year). The ID group demonstrated lower muscle groups than in typically developing group. Except for the ankle plantarflexors (ICC = 0.69, SEM = 0.72), test-retest analysis showed good intrarater reliability with ICC ranging from 0.81 to 0.96, and intrarater SEM values ranged from 0.40 to 0.57. The HDD has the potential to be a reliable tool for strength measurement in ID. Muscle strength was positively related to agility performance. Regression analysis indicated that height, weight, BMI, and activity level were significant predictors of muscle strength in ID. (C) 2013 Elsevier Ltd.

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PY 2013

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ER

PT J

AU Haberman, SJ

Sinharay, S

Chon, KH

AF Haberman, Shelby J.

Sinharay, Sandip

Chon, Kyong Hee

TI ASSESSING ITEM FIT FOR UNIDIMENSIONAL ITEM RESPONSE THEORY

MODELS USING

RESIDUALS FROM ESTIMATED ITEM RESPONSE FUNCTIONS

SO PSYCHOMETRIKA

AB Residual analysis (e.g. Hambleton & Swaminathan, Item response theory: principles and applications, Kluwer Academic, Boston, 1985; Hambleton,

Swaminathan, & Rogers, Fundamentals of item response theory, Sage, Newbury Park, 1991) is a popular method to assess fit of item response theory (IRT) models. We suggest a form of residual analysis that may be applied to assess item fit for unidimensional IRT models. The residual analysis consists of a comparison of the maximum-likelihood estimate of the item characteristic curve with an alternative ratio estimate of the item characteristic curve. The large sample distribution of the residual is proved to be standardized normal when the IRT model fits the data. We compare the performance of our suggested residual to the standardized residual of Hambleton et al. (Fundamentals of item response theory, Sage, Newbury Park, 1991) in a detailed simulation study. We then calculate our suggested residuals using data from an operational test. The residuals appear to be useful in assessing the item fit for unidimensional IRT models.

PD JUL
PY 2013
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ER

PT J
AU Battauz, M
AF Battauz, Michela
TI IRT TEST EQUATING IN COMPLEX LINKAGE PLANS
SO PSYCHOMETRIKA

AB Linkage plans can be rather complex, including many forms, several links, and the connection of forms through different paths. This article studies item response theory equating methods for complex linkage plans when the common-item nonequivalent group design is used. An efficient way to average equating coefficients that link the same two forms through different paths will be presented and the asymptotic standard errors of indirect and average equating coefficients are derived. The methodology is illustrated using simulations studies and a real data example.

PD JUL
PY 2013
VL 78
IS 3
BP 464
EP 480
ER

PT J
AU Satomura, H

Adachi, K

AF Satomura, Hironori

Adachi, Kohei

TI OBLIQUE ROTATION IN CANONICAL CORRELATION ANALYSIS REFORMULATED
AS

MAXIMIZING THE GENERALIZED COEFFICIENT OF DETERMINATION
SO PSYCHOMETRIKA

AB To facilitate the interpretation of canonical correlation analysis (CCA) solutions, procedures have been proposed in which CCA solutions are orthogonally rotated to a simple structure. In this paper, we consider oblique rotation for CCA to provide solutions that are much easier to interpret, though only orthogonal rotation is allowed in the existing formulations of CCA. Our task is thus to reformulate CCA so that its solutions have the freedom of oblique rotation. Such a task can be achieved using Yanai's (Jpn. J. Behaviormetrics 1:46-54, 1974; J. Jpn. Stat. Soc. 11:43-53, 1981) generalized coefficient of determination for the objective function to be maximized in CCA. The resulting solutions are proved to include the existing orthogonal ones as special cases and to be rotated obliquely without affecting the objective function value, where ten Berge's (Psychometrika 48:519-523, 1983) theorems on suborthonormal matrices are used. A real data example demonstrates that the proposed oblique rotation can provide simple, easily interpreted CCA solutions.

PD JUL

PY 2013

VL 78

IS 3

BP 526

EP 537

ER

PT J

AU Jennrich, R

Satorra, A

AF Jennrich, Robert

Satorra, Albert

TI CONTINUOUS ORTHOGONAL COMPLEMENT FUNCTIONS AND DISTRIBUTION-
FREE

GOODNESS OF FIT TESTS IN MOMENT STRUCTURE
SO PSYCHOMETRIKA

AB It is shown that for any full column rank matrix X_0 with more rows than columns there is a neighborhood N of X_0 and a continuous function f on N such that $f(X)$ is an orthogonal complement of X for all X in N . This is used to derive a distribution free goodness of fit test for covariance structure analysis. This test was proposed some time ago and is extensively used. Unfortunately, there is an error in the proof that

the proposed test statistic has an asymptotic χ^2 distribution. This is a potentially serious problem, without a proof the test statistic may not, in fact, be asymptotically χ^2 . The proof, however, is easily fixed using a continuous orthogonal complement function. Similar problems arise in other applications where orthogonal complements are used. These can also be resolved by using continuous orthogonal complement functions.

PD JUL

PY 2013

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IS 3

BP 545

EP 552

ER

PT J

AU Stupacher, J

Hove, MJ

Novembre, G

Schutz-Bosbach, S

Keller, PE

AF Stupacher, Jan

Hove, Michael J.

Novembre, Giacomo

Schuetz-Bosbach, Simone

Keller, Peter E.

TI Musical groove modulates motor cortex excitability: A TMS investigation

SO BRAIN AND COGNITION

AB Groove is often described as a musical quality that can induce movement in a listener. This study examines the effects of listening to groove music on corticospinal excitability. Musicians and non-musicians listened to high-groove music, low-groove music, and spectrally matched noise, while receiving single-pulse transcranial magnetic stimulation (TMS) over the primary motor cortex either on-beat or off-beat. We examined changes in the amplitude of the motor-evoked potentials (MEPs), recorded from hand and arm muscles, as an index of activity within the motor system. Musicians and non-musicians rated groove similarly. MEP results showed that high-groove music modulated corticospinal excitability, whereas no difference occurred between low-groove music and noise. More specifically, musicians' MEPs were larger with high-groove than low-groove music, and this effect was especially pronounced for on-beat compared to off-beat pulses. These results indicate that high-groove music increasingly engages the motor system, and the temporal modulation of corticospinal excitability with the beat could stem from tight auditory-motor links in musicians. Conversely, non-musicians' MEPs were smaller for high-groove than low-groove music,

and there was no effect of on- versus off-beat pulses, potentially stemming from suppression of overt movement. In sum, high-groove music engages the motor system, and previous training modulates how listening to music with a strong groove activates the motor system. (C) 2013 Elsevier Inc. All rights reserved.

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IS 2
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PT J
AU Moustafa, AA
Bell, P
Eissa, AM
Hewedi, DH
AF Moustafa, Ahmed A.
Bell, Peter
Eissa, Abeer M.
Hewedi, Doaa H.

TI The effects of clinical motor variables and medication dosage on working memory in Parkinson's disease

SO BRAIN AND COGNITION

AB In this study, we investigate the interrelationship between clinical variables and working memory (WM) in Parkinson's disease (PD). Specifically, the aim of the study was to investigate the relationship between disease duration, dopaminergic medication dosage, and motor disability (UPDRS score) with WM in individuals with PD. Accordingly, we recruited three groups of subjects: unmedicated PD patients, medicated PD patients, and healthy controls. All subjects were tested on three WM tasks: short-delay WM, long-delay WM, and the n-back task. Further, PD encompasses a spectrum that can be classified either into akinesia/rigidity or resting tremor as the predominant motor presentation of the disease. In addition to studying medication effects, we tested WM performance in tremor-dominant and akinesia-dominant patients. We further correlated WM performance with disease duration and medication dosage. We found no difference between medicated and unmedicated patients in the short-delay WM task, but medicated patients outperformed unmedicated patients in the long-delay WM and n-back tasks. Interestingly, we also found that akinesia-dominant patients were more impaired than tremor-dominant patients at various WM measures, which is in agreement with prior studies of the relationship between akinesia symptom and basal ganglia dysfunction. Moreover, the results show that disease duration inversely correlates with more demanding WM tasks

(long-delay WM and n-back tasks), but medication dosage positively correlates with demanding WM performance. In sum, our results show that WM impairment in PD patients depend on cognitive domain (simple vs. demanding WM task), subtype of PD patients (tremor- vs. akinesia-dominant), as well as disease duration and medication dosage. Our results have implications for the interrelationship between motor and cognitive processes in PD, and for understanding the role of cognitive training in treating motor symptoms in PD. (C) 2013 Elsevier Inc. All rights reserved.

PD JUL
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PT J
AU Fautrelle, L
Gueugnon, M
Barbieri, G
Bonnetblanc, F
AF Fautrelle, Lilian
Gueugnon, Mathieu
Barbieri, Guillaume
Bonnetblanc, Francois

TI Inter-hemispheric remapping between arm proprioception and vision of the hand is disrupted by single pulse TMS on the left parietal cortex

SO BRAIN AND COGNITION

AB Parietal cortical areas are involved in sensori-motor transformations for their respective contralateral hemifield/body. When arms of the subjects are crossed while their gaze is fixed straight ahead, vision of the hand is processed by the hemisphere ipsilateral to the arm position and proprioception of the arm by the contralateral hemisphere. It induces interhemispheric transfer and remapping. Our objective was to investigate whether a single pulse TMS applied to the left parietal cortical area would disturb interhemispheric remapping in a similar case, and would increase a simple reaction time (RT) with respect to a control single pulse TMS applied to the frontal cortical area. Two LED were superimposed and located in front of the subjects on the saggital axis. Subjects were asked to carefully fixate on these LED during each trial. The lighting of the red LED was used as a warning signal. Following the green one was illuminated after a variable delay and served as a go-signal. The hand for the response was determined before the start of each trial. TMS was applied to the left parietal, the left frontal cortical areas, or not applied to the subject. Results revealed

that: (1) Irrespective of its location, single pulse TMS induced a non-specific effect similar to a startle reflex and reduced RT substantially (15 ms on average) with respect to a control condition without TMS (mean value = 153 ms). (2) Irrespective of TMS, RT were shorter when the right or the left hand was positioned in the right visual hemi-field (i.e. normal and crossed positions respectively). (3) Finally, RT increased when single pulse TMS was applied to the left parietal area and when hands were crossed irrespective of which hand was used. We concluded that interhemispheric sensori-motor remapping was disrupted by a single pulse TMS that was applied to the left parietal cortex. This effect was also combined with some visual attention directed towards the hand located on the right visual hemi-field. (C) 2013 Elsevier Inc. All rights reserved.

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VL 82

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ER

PT J

AU Forn, C

Ripolles, P

Cruz-Gomez, AJ

Belenguer, A

Gonzalez-Torre, JA

Avila, C

AF Forn, C.

Ripolles, P.

Cruz-Gomez, A. J.

Belenguer, A.

Gonzalez-Torre, J. A.

Avila, C.

TI Task-load manipulation in the Symbol Digit Modalities Test: An alternative measure of information processing speed

SO BRAIN AND COGNITION

AB Objective: To evaluate the utility of an oral fMRI-adapted version of the Symbol Digit Modalities Test (SDMT) to assess information processing speed (IPS) using three different interstimulus intervals (ISI).

Methods: Nineteen right-handed healthy controls performed the adapted version of the SDMT, consisting of a block design that had a total of 6 control/activation block pairs with 3 different ISIs (1.5, 2 and 2.5 s) presented in two different runs: in ascending and descending orders. The brain activation patterns during different ISIs were assessed by effective functional connectivity analysis based on independent

component analysis.

Results: As expected, all conditions yielded activations in the fronto-parietal networks (FPNs) related to attention processes. Shorter ISIs (1.5 and 2 s) not only yielded greater patterns of connectivity within fronto-parietal and occipital regions such as the FPN and fronto-occipital network (FON), but also recruited more functional networks overall. Task performance at the shortest ISI was negatively correlated with connectivity at the FPN and activity of the pre-supplementary motor area extending to the cingulate gyrus. Conclusion: Increasing IPS demands due to shorter ISIs resulted in an increased level and number of functional networks required, increased connectivity within the FPN and FON, and enhancement of the prefrontal cortex. IPS does not arise from activity of a single brain area but from affective information transfer among distant cortical regions of the frontal and parietal cortices. This adapted version of the SDMT may be useful for studying alterations of IFS in clinical and nonclinical populations. (C) 2013 Elsevier Inc. All rights reserved.

PD JUL

PY 2013

VL 82

IS 2

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ER

PT J

AU Gilbert, JR

Pillai, AS

Horwitz, B

AF Gilbert, Jessica R.

Pillai, Ajay S.

Horwitz, Barry

TI Assessing crossmodal matching of abstract auditory and visual stimuli in posterior superior temporal sulcus with MEG

SO BRAIN AND COGNITION

AB Associating crossmodal auditory and visual stimuli is an important component of perception, with the posterior superior temporal sulcus (pSTS) hypothesized to support this. However, recent evidence has argued that the pSTS serves to associate two stimuli irrespective of modality.

To examine the contribution of pSTS to crossmodal recognition, participants (N = 13) learned 12 abstract, non-linguistic pairs of stimuli over 3 weeks. These paired associates comprised four types: auditory-visual (AV), auditory-auditory (AA), visual-auditory (VA), and visual-visual (VV). At week four, participants were scanned using magnetoencephalography (MEG) while performing a correct/incorrect judgment on pairs of items. Using an implementation of synthetic

aperture magnetometry that computes real statistics across trials (SAMspm), we directly contrasted crossmodal (AV and VA) with unimodal (AA and VV) pairs from stimulus-onset to 2 s in theta (4-8 Hz), alpha (9-15 Hz), beta (16-30 Hz), and gamma (31-50 Hz) frequencies. We found pSTS showed greater desynchronization in the beta frequency for crossmodal compared with unimodal trials, suggesting greater activity during the crossmodal pairs, which was not influenced by congruency of the paired stimuli. Using a sliding window SAM analysis, we found the timing of this difference began in a window from 250 to 750 ms after stimulus-onset. Further, when we directly contrasted all sub-types of paired associates from stimulus-onset to 2 s, we found that pSTS seemed to respond to dynamic, auditory stimuli, rather than crossmodal stimuli per se. These findings support an early role for pSTS in the processing of dynamic, auditory stimuli, and do not support claims that pSTS is responsible for associating two stimuli irrespective of their modality. Published by Elsevier Inc.

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PT J

AU Raz, N

Schmiedek, F

Rodrigue, KM

Kennedy, KM

Lindenberger, U

Lovden, M

AF Raz, Naftali

Schmiedek, Florian

Rodrigue, Karen M.

Kennedy, Kristen M.

Lindenberger, Ulman

Lovden, Martin

TI Differential brain shrinkage over 6 months shows limited association with cognitive practice

SO BRAIN AND COGNITION

AB The brain shrinks with age, but the timing of this process and the extent of its malleability are unclear. We measured changes in regional brain volumes in younger (age 20-31) and older (age 65-80) adults twice over a 6 months period, and examined the association between changes in volume, history of hypertension, and cognitive training. Between two MRI scans, 49 participants underwent intensive practice in three cognitive

domains for 100 consecutive days, whereas 23 control group members performed no laboratory cognitive tasks. Regional volumes of seven brain structures were measured manually and adjusted for intracranial volume. We observed significant mean shrinkage in the lateral prefrontal cortex, the hippocampus, the caudate nucleus, and the cerebellum, but no reliable mean change of the prefrontal white matter, orbital-frontal cortex, and the primary visual cortex. Individual differences in change were reliable in all regions. History of hypertension was associated with greater cerebellar shrinkage. The cerebellum was the only region in which significantly reduced shrinkage was apparent in the experimental group after completion of cognitive training. Thus, in healthy adults, differential brain shrinkage can be observed in a narrow time window, vascular risk may aggravate it, and intensive cognitive activity may have a limited effect on it. (C) 2013 Elsevier Inc. All rights reserved.

PD JUL

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VL 82

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EP 180

ER

PT J

AU Van der Stigchel, S

Nijboer, TCW

Bultitude, JH

Rafal, RD

AF Van der Stigchel, Stefan

Nijboer, Tanja C. W.

Bultitude, Janet H.

Rafal, Robert D.

TI Delayed oculomotor inhibition in patients with lesions to the human frontal oculomotor cortex: Evidence from a study on saccade averaging
SO BRAIN AND COGNITION

AB The frontal oculomotor cortex is known to play an important role in oculomotor selection. The aim of the current study was to examine whether previously observed findings concerning the role of the frontal oculomotor cortex in the speed of saccade initiation and oculomotor inhibition might be related to a common underlying role of these areas in oculomotor selection. To this end, six patients with lesions to the frontal oculomotor cortex performed a double stimulus paradigm in which two elements were presented simultaneously in close proximity. Patients performed a block in which no specific task instruction was given and a block in which an instruction was provided about which of the two elements was the target. The rationale behind this manipulation was that the introduction of a specific task instruction would require a stronger

involvement of top-down factors. In contrast to the block without a specific task instruction, saccade latencies to the contralesional visual field were longer than the ipsilesional visual field when a task instruction was given. This effect was strongest for saccades that landed away from the target and the distractor, reflecting trials in which strong oculomotor inhibition was applied. The observed deficits can be explained in terms of a slowing of the inhibitory signals associated with the rejection of a distractor. Given the known role of the Frontal Eye Fields and the location of the lesions, we attribute these findings to the Frontal Eye Fields, revealing their important role in the voluntary control of eye movements. (C) 2013 Elsevier Inc. All rights reserved.

PD JUL

PY 2013

VL 82

IS 2

BP 192

EP 200

ER

PT J

AU Ronconi, L

Gori, S

Giora, E

Ruffin, M

Molteni, M

Facoetti, A

AF Ronconi, Luca

Gori, Simone

Giora, Enrico

Ruffin, Milena

Molteni, Massimo

Facoetti, Andrea

TI Deeper attentional masking by lateral objects in children with autism

SO BRAIN AND COGNITION

AB Autism spectrum disorder (ASD) is often associated with a detail-oriented perception and overselective attention in visual tasks, such as visual search and crowding. These results were obtained manipulating exclusively the spatial properties of the stimuli: few is known about the spatio-temporal dynamics of visual processing in ASD. In this study we employed an attentional masking (AM) paradigm comparing children with ASD and IQ-matched typically developing (TD) controls. The AM effect refers to an impaired identification of a target followed by a competitive masking object at different proximities in space and time. We found that ASD and TD groups did not differ in the AM effect provoked by the competitive object displayed in the same position of the target.

In contrast, children with ASD showed a deeper and prolonged interference than the TD group when the masking object was displayed in the lateral position. These psychophysical results suggest that the inefficient attentional selection in ASD depends on the spatio-temporal interaction between competitive visual objects. These evidence are discussed in the light of the ASD altered neural connectivity hypothesis and the reentrant theory of perception. (C) 2013 Elsevier Inc. All rights reserved.

PD JUL
PY 2013
VL 82
IS 2
BP 213
EP 218
ER

PT J
AU Lallier, M
Donnadieu, S
Valdois, S
AF Lallier, Marie
Donnadieu, Sophie
Valdois, Sylviane

TI Developmental dyslexia: exploring how much phonological and visual attention span disorders are linked to simultaneous auditory processing deficits

SO ANNALS OF DYSLEXIA

AB The simultaneous auditory processing skills of 17 dyslexic children and 17 skilled readers were measured using a dichotic listening task. Results showed that the dyslexic children exhibited difficulties reporting syllabic material when presented simultaneously. As a measure of simultaneous visual processing, visual attention span skills were assessed in the dyslexic children. We presented the dyslexic children with a phonological short-term memory task and a phonemic awareness task to quantify their phonological skills. Visual attention spans correlated positively with individual scores obtained on the dichotic listening task while phonological skills did not correlate with either dichotic scores or visual attention span measures. Moreover, all the dyslexic children with a dichotic listening deficit showed a simultaneous visual processing deficit, and a substantial number of dyslexic children exhibited phonological processing deficits whether or not they exhibited low dichotic listening scores. These findings suggest that processing simultaneous auditory stimuli may be impaired in dyslexic children regardless of phonological processing difficulties and be linked to similar problems in the visual modality.

PD JUL

PY 2013
VL 63
IS 2
BP 97
EP 116
ER

PT J

AU Doignon-Camus, N
Seigneuric, A
Perrier, E
Sisti, A
Zagar, D
AF Doignon-Camus, Nadege
Seigneuric, Alix
Perrier, Emeline
Sisti, Aurelie
Zagar, Daniel

TI Evidence for a preserved sensitivity to orthographic redundancy and an impaired access to phonological syllables in French developmental dyslexics

SO ANNALS OF DYSLEXIA

AB To evaluate the orthographic and phonological processing skills of developmental dyslexics, we (a) examined their abilities to exploit properties of orthographic redundancy and (b) tested whether their phonological deficit extends to spelling-to-sound connections for large-grain size units such as syllables. To assess the processing skills in dyslexics, we utilized the illusory conjunction paradigm to investigate the nature of reading units in French dyslexic and control children matched in reading age. In control children, reading units were defined by both orthographic redundancy and phonological syllable information. In dyslexics, however, reading units were defined only by orthographic redundancy. Therefore, despite their impairment in reading acquisition, developmental dyslexics have the ability to encode and exploit letter frequency co-occurrences. In contrast, their access to phonological syllables from letters was impaired, suggesting that their phonological deficit extends to large grain-size phonological units.

PD JUL

PY 2013
VL 63
IS 2
BP 117
EP 132
ER

PT J

AU Youman, M

Mather, N

AF Youman, Martha

Mather, Nancy

TI Dyslexia laws in the USA

SO ANNALS OF DYSLEXIA

AB Throughout the various states of the USA, the appropriate identification of dyslexia and the timely provision of interventions are characterized by variability and inconsistency. Several states have recognized the existence of this disorder and the well-established need for services. These states have taken proactive steps to implement laws and regulations for both identification and treatment, and the provision of equal access to students who are diagnosed with dyslexia. The majority of states, however, have not developed such laws and guidelines. The purposes of this article are to review the present status and content of these dyslexia laws, highlight some differences among the laws and regulations across states, and suggest strategies for initiating such laws.

PD JUL

PY 2013

VL 63

IS 2

BP 133

EP 153

ER

PT J

AU Du, WC

Kelly, S

AF Du, Wenchong

Kelly, Steve W.

TI Implicit sequence learning in dyslexia: a within-sequence comparison of first- and higher-order information

SO ANNALS OF DYSLEXIA

AB The present study examines implicit sequence learning in adult dyslexics with a focus on comparing sequence transitions with different statistical complexities. Learning of a 12-item deterministic sequence was assessed in 12 dyslexic and 12 non-dyslexic university students. Both groups showed equivalent standard reaction time increments when the sequence was unexpectedly changed, suggesting that learning of the sequence took place. However, a novel analysis comparing transitions of differing complexity within the learning blocks indicated that dyslexic participants were impaired only for higher-order but not first-order sequence learning. No difference was found in the explicit awareness contribution between the two groups and this was found not to correlate with reaction time performance. This result suggests that statistical

complexity of the sequence may account for intact and impaired learning performance in dyslexia.

PD JUL
PY 2013
VL 63
IS 2
BP 154
EP 170
ER

PT J
AU Schiff, R
Katzir, T
Shoshan, N
AF Schiff, Rachel
Katzir, Tami
Shoshan, Noa

TI Reading accuracy and speed of vowelized and unvowelized scripts among dyslexic readers of Hebrew: the road not taken

SO ANNALS OF DYSLEXIA

AB The present study examined the effects of orthographic transparency on reading ability of children with dyslexia in two Hebrew scripts. The study explored the reading accuracy and speed of vowelized and unvowelized Hebrew words of fourth-grade children with dyslexia. A comparison was made to typically developing readers of two age groups: a group matched by chronological age and a group of children who are 2 years younger, presumably at the end of the reading acquisition process. An additional purpose was to investigate the role of vowelization in the reading ability of unvowelized script among readers with dyslexia in an attempt to assess whether vowelization plays a mediating role for reading speed of unvowelized scripts. The present study found no significant differences in reading accuracy and speed between vowelized and unvowelized scripts among fourth-grade readers with dyslexia. The reading speed of fourth-graders with dyslexia was similar to typically developing second-graders for both the vowelized and unvowelized words. However, fourth-grade children with dyslexia performed lower than the typically developing second-graders in the reading accuracy of vowelized script. Furthermore, for readers with dyslexia, accuracy in reading both vowelized and unvowelized words mediated the reading speed of unvowelized scripts. These results may be a sign that Hebrew-speaking children with dyslexia have severe difficulties that prevent them from developing strategies for more efficient reading.

PD JUL
PY 2013
VL 63
IS 2

BP 171
EP 185
ER

PT J

AU Kahraman, N

Cuddy, MM

Clauser, BE

AF Kahraman, Nilufer

Cuddy, Monica M.

Clauser, Brian E.

TI Modeling Pacing Behavior and Test Speededness Using Latent Growth Curve Models

SO APPLIED PSYCHOLOGICAL MEASUREMENT

AB This research explores the usefulness of latent growth curve modeling in the study of pacing behavior and test speededness. Examinee response times from a high-stakes, computerized examination, collected before and after the examination was subjected to a timing change, were analyzed using a series of latent growth curve models to detect identifiable patterns of examinee pacing behavior. To help explain how examinees progress through the examination, the influences of two important predictor variables were tested: examinees' native language and overall proficiency. Results illustrate how group-specific changes in the relationship between proficiency and response times and a phase-specific interaction effect would have gone unnoticed if a longitudinal perspective had not been used. The findings suggest that growth curve modeling is a useful tool for modeling change in test speed as a continuous process.

PD JUL

PY 2013

VL 37

IS 5

BP 343

EP 360

ER

PT J

AU Diao, Q

van der Linden, WJ

AF Diao, Qi

van der Linden, Wim J.

TI Integrating Test-Form Formatting Into Automated Test Assembly

SO APPLIED PSYCHOLOGICAL MEASUREMENT

AB Automated test assembly uses the methodology of mixed integer programming to select an optimal set of items from an item bank.

Automated test-form generation uses the same methodology to optimally

order the items and format the test form. From an optimization point of view, production of fully formatted test forms directly from the item pool using a simultaneous optimization model is more attractive than any of the current, more time-consuming two-stage processes. The goal of this study was to provide such simultaneous models both for computer-delivered and paper forms, as well as explore their performances relative to two-stage optimization. Empirical examples are presented to show that it is possible to automatically produce fully formatted optimal test forms directly from item pools up to some 2,000 items on a regular PC in realistic times.

PD JUL

PY 2013

VL 37

IS 5

BP 361

EP 374

ER

PT J

AU Dai, YY

AF Dai, Yunyun

TI A Mixture Rasch Model With a Covariate: A Simulation Study via Bayesian Markov Chain Monte Carlo Estimation

SO APPLIED PSYCHOLOGICAL MEASUREMENT

AB Mixtures of item response theory (IRT) models have been proposed as a technique to explore response patterns in test data related to cognitive strategies, instructional sensitivity, and differential item functioning (DIF). Estimation proves challenging due to difficulties in identification and questions of effect size needed to recover underlying structure. In particular, the impact of covariates for examinees in estimation has not been systematically explored. The goal of this study is to carry out a systematically designed simulation study to investigate the performance of mixture Rasch model (MRM) under Bayesian estimation. Insights and suggestions on model application and model estimation are discussed. The foci of this study are to use a flexible logistic regression structure to include examinees' covariate in MRM, to study Markov chain Monte Carlo (MCMC) estimation behavior in light of effect size, and to provide an effective and applicable method for dealing with chain switching.

PD JUL

PY 2013

VL 37

IS 5

BP 375

EP 396

ER

PT J

AU Lei, PW

Li, HL

AF Lei, Pui-Wa

Li, Hongli

TI Small-Sample DIF Estimation Using SIBTEST, Cochran's Z, and Log-Linear Smoothing

SO APPLIED PSYCHOLOGICAL MEASUREMENT

AB Minimum sample sizes of about 200 to 250 per group are often recommended for differential item functioning (DIF) analyses. However, there are times when sample sizes for one or both groups of interest are smaller than 200 due to practical constraints. This study attempts to examine the performance of Simultaneous Item Bias Test (SIBTEST), Cochran's Z test, and log-linear smoothing with these methods in DIF detection accuracy at a number of small-sample and ability distribution combinations. Effects of item parameters and DIF magnitudes are also investigated. Results show that when ability distributions between groups are identical, Type I error for these DIF methods can be adequately controlled at all sample sizes, and their power to detect a large amount of unidirectional DIF can be tolerably high (power > .6) when sample size is not too small (at least 100 per group). When ability distributions are different, Type I inflation is higher for easier items and larger sample sizes, and power depends on DIF direction. Log-linear smoothing with SIBTEST tends to lower both Type I error rate and power. The effect of smoothing with Cochran's Z test is not as consistent. Implications of the findings are discussed.

PD JUL

PY 2013

VL 37

IS 5

BP 397

EP 416

ER

PT J

AU Chrysochoou, E

Bablekou, Z

Masoura, E

Tsigilis, N

AF Chrysochoou, Elisavet

Bablekou, Zoe

Masoura, Elvira

Tsigilis, Nikolaos

TI Working memory and vocabulary development in Greek preschool and primary school children

SO EUROPEAN JOURNAL OF DEVELOPMENTAL PSYCHOLOGY

AB The present research investigated the relative contributions of verbal short-term memory (STM) and working memory (WM) to vocabulary development in the early years among Greek-speaking children. Participants were 5.5-, 7.5-, 8.5- and 9.5-year-old (N=216) native speakers of Greek, a language differing from English in which most investigations have been conducted. Children were assessed with a receptive vocabulary task, four verbal STM measures (word, digit, and non-word list recall, as well as word list matching), and three verbal WM tasks (listening, counting, and backward digit recall). Results offer support to the view that both STM and WM influence vocabulary development in early stages. Vocabulary was associated with verbal STM at 7.5 and 8.5 years, but only with verbal WM at 5.5 years. Associations declined with age (by 9.5 years), earlier than in English-speaking children. Findings are discussed in relation to Greek language characteristics, demonstrating the importance of cross-cultural investigations.

PD JUL

PY 2013

VL 10

IS 4

BP 417

EP 432

ER

PT J

AU Goksun, T

Woods, AJ

Chatterjee, A

Zeloni, S

Glass, L

Smith, SE

AF Goeksun, Tilbe

Woods, Adam J.

Chatterjee, Anjan

Zeloni, Sarah

Glass, Leila

Smith, Sabrina E.

TI Elementary school children's attentional biases in physical and numerical space

SO EUROPEAN JOURNAL OF DEVELOPMENTAL PSYCHOLOGY

AB Numbers are conceptualized spatially along a horizontal mental line. This view is supported by mounting evidence from healthy adults and patients with unilateral spatial neglect. Little is known about children's representation of numbers with respect to space. This study investigated elementary school children's directional biases in physical

and numerical space to better understand the relation between space and number. We also examined the nature of spatial organization in numerical space. In two separate tasks, children (n = 57) were asked to bisect a physical line and verbally estimate the midpoint of number pairs. In general, results indicated leftward biases in both tasks, but the degree of deviation did not correlate between the tasks. In the number bisection task, leftward bias (underestimating the midpoint) increased as a function of numerical magnitude and interval between number pairs. In contrast, a rightward deviation was found for smaller number pairs. These findings suggest that different underlying spatial attentional mechanisms might be directed in physical and numerical space in young school children, which would be integrated in adulthood.

PD JUL

PY 2013

VL 10

IS 4

BP 433

EP 448

ER

PT J

AU Harris, YR

Schroeder, VM

AF Harris, Yvette R.

Schroeder, Valarie M.

TI The association between maternal strategies and preschoolers' memory for location of objects

SO EUROPEAN JOURNAL OF DEVELOPMENTAL PSYCHOLOGY

AB Using a Vygotskian theoretical framework and a social interaction design, we observed 30 middle-class North American mother-child dyads engaged in a location memory activity. The central aim of this investigation was to assess maternal and preschool strategy use employed during a memory for location task, and to determine which strategies are associated with preschooler accuracy of memory for location of objects. Results suggest that mothers are more apt to utilize labelling, encouragement, and guidance as opposed to location-specific assistance to their child during the task, and children are more apt to link the memory information to their real-life experiences, request help for assistance, and utilize self-regulatory speech. Implications of the research, suggestions for future research, and expansions of theoretical perspectives on the role of social interaction on preschool location memory performance, and educational implications are discussed.

PD JUL

PY 2013

VL 10

IS 4

BP 461
EP 475
ER

PT J
AU Gini, G
Pozzoli, T
AF Gini, Gianluca
Pozzoli, Tiziana

TI Measuring self-serving cognitive distortions: A meta-analysis of the psychometric properties of the How I Think Questionnaire (HIT)
SO EUROPEAN JOURNAL OF DEVELOPMENTAL PSYCHOLOGY
AB The How I Think Questionnaire (HIT; Barriga et al., 2001) is a self-report measure of self-serving cognitive distortions. This study used meta-analytic methods to analyse: (i) the reliability of the HIT scores across samples; (ii) the variability in reliability estimates; and (iii) the convergent and criterion-group validity of the HIT scores. Results showed an excellent reliability of the total HIT scores: mean $\alpha = .93$, 95% CI [.92, .94]; $k = 29$, $N = 8,186$. Heterogeneity of total HIT was mainly explained by type of population. The reliabilities of the four subscale scores were also adequate. Moreover, the HIT has strong convergent validity and is able to discriminate between offenders and control participants. Limitations of the current literature are discussed.

PD JUL
PY 2013
VL 10
IS 4
BP 510
EP 517
ER

PT J
AU Ponizovsky, Y
Dimitrova, R
Schachner, MK
van de Schoot, R
AF Ponizovsky, Yael
Dimitrova, Radosveta
Schachner, Maja Katharina
van de Schoot, Rens

TI The Satisfaction With Life Scale: Measurement invariance across immigrant groups
SO EUROPEAN JOURNAL OF DEVELOPMENTAL PSYCHOLOGY
AB The current study examined measurement invariance of the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) across

three immigrant groups, namely, immigrants from the Former Soviet Union (FSU) in Israel, Turkish-Bulgarians, and Turkish-Germans. The results demonstrate measurement invariance of the SWLS across groups. The findings that Turkish-Bulgarian and FSU immigrants in Israel scored significantly lower on the SWLS compared to Turkish-Germans can be explained by assimilative policies in Israel and Bulgaria. In conclusion, our results suggest the SWLS is feasible for cross-cultural comparisons of immigrants of various age groups. Future investigation of measurement invariance over time is needed to use the SWLS in a developmental perspective.

PD JUL

PY 2013

VL 10

IS 4

BP 526

EP 532

ER

PT J

AU Dai, DY

Chen, F

AF Dai, David Yun

Chen, Fei

TI Three Paradigms of Gifted Education: In Search of Conceptual Clarity in Research and Practice

SO GIFTED CHILD QUARTERLY

AB The purpose of the article is to articulate and compare three major approaches or paradigms of gifted education, so that researchers and practitioners can be more explicit about their assumptions, goals, and educational strategies in their research and practice. We first define the term paradigm, and then delineate three paradigms in the historical context. We then compare and contrast the three paradigms to elucidate their continuities and discontinuities. Finally, we discuss the importance of articulating the paradigmatic nature of approaches for educational and research purposes. The ultimate purpose of articulating the distinct approaches is to seek a common research agenda with clarity, rigor, and relevance.

PD JUL

PY 2013

VL 57

IS 3

BP 151

EP 168

ER

PT J

AU Foley-Nicpon, M

Assouline, SG

Colangelo, N

AF Foley-Nicpon, Megan

Assouline, Susan G.

Colangelo, Nicholas

TI Twice-Exceptional Learners: Who Needs to Know What?

SO GIFTED CHILD QUARTERLY

AB Twice-exceptionality is gaining increasing recognition in the gifted education literature but little is understood about the knowledge and awareness of this concept within the educational and psychological community, or about professionals' experience working with this population of learners. Three-hundred and seventeen individuals completed an online Twice-Exceptional Needs Assessment, which consisted of 14 questions assessing issues pertaining to twice-exceptionality knowledge and experience, as well as knowledge of policies relevant to both gifted and special education. Results indicated that educators were more familiar with standards within their specific area of expertise (e.g., gifted or special education) and that fewer professionals were familiar with the use of Response to Intervention with twice-exceptional children. Gifted education professionals had significantly more knowledge and experience with twice-exceptionality than did professionals in other domains. We conclude with implications for educators and recommendations for expanding professional understanding of twice-exceptionality outside the field of gifted education to meet twice-exceptional students' multifaceted needs.

PD JUL

PY 2013

VL 57

IS 3

BP 169

EP 180

ER

PT J

AU Hernandez-Torrano, D

Prieto, MD

Ferrandiz, C

Bermejo, R

Sainz, M

AF Hernandez-Torrano, Daniel

Dolores Prieto, Maria

Ferrandiz, Carmen

Bermejo, Rosario

Sainz, Marta

TI Characteristics Leading Teachers to Nominate Secondary Students as

Gifted in Spain

SO GIFTED CHILD QUARTERLY

AB What are the characteristics leading teachers to nominate gifted students in Spain? To answer this question, several demographic (i.e., gender, grade) and psychological (i.e., multiple intelligences, emotional intelligence, intellectual aptitude, and divergent thinking) characteristics of 563 secondary students nominated as gifted by their teachers were analyzed. Results showed a general gifted profile of the nominated students defined by higher scores in their naturalist and social intelligences, stress management, and verbal, mechanical, and spatial reasoning. Additional analysis indicated that students' gender and grade also influenced teachers' nominations of gifted students. Based on the associations among the demographic and psychological characteristics included in this study, nominated students could be classified in five specific gifted profiles, namely, moderately gifted students, social-emotionally gifted students, artistically gifted students, intellectually gifted students, and generally gifted students. Discussion of the limitations of the study, directions for future research, and educational implications of the study are provided.

PD JUL

PY 2013

VL 57

IS 3

BP 181

EP 196

ER

PT J

AU Huang, FL

Moon, TR

AF Huang, Francis L.

Moon, Tonya R.

TI What Are the Odds of That? A Primer on Understanding Logistic Regression

SO GIFTED CHILD QUARTERLY

AB The purpose of this Methodological Brief is to present a brief primer on logistic regression, a commonly used technique when modeling dichotomous outcomes. Using data from the National Education Longitudinal Study of 1988 (NELS:88), logistic regression techniques were used to investigate student-level variables in eighth grade (i.e., enrolled in a gifted class, gender, and socioeconomic status) that were associated with taking an Advanced Placement course in the 10th grade. Through the use of the NELS:88 data, the authors provide an example of how to interpret both categorical and continuous independent variables and illustrate how model fit can be assessed.

PD JUL

PY 2013

VL 57
IS 3
BP 197
EP 204
ER

PT J

AU Chevalier, N

Huber, KL

Wiebe, SA

Espy, KA

AF Chevalier, Nicolas

Huber, Kristina L.

Wiebe, Sandra A.

Espy, Kimberly Andrews

TI Qualitative change in executive control during childhood and adulthood

SO COGNITION

AB Executive control development typically has been conceptualized to result from quantitative changes in the efficiency of the underlying processes. In contrast, the present study addressed the possibility of qualitative change with age by examining how children and adults detect task switches. Participants in three age groups (5- and 10-year-old children, young adults) completed two conditions of a cued task-switching paradigm where task cues were presented either in isolation or in conjunction with transition cues. Five-year-olds performed better with transition cues, whereas the reverse effect was observed at age 10 and with adults. Unlike 5-year-olds who detect switches after semantically processing cues, older participants strategically detect switches based on perceptual processing only. Age-related qualitative changes promote increasingly optimal adjustment of executive resources with age. (C) 2013 Elsevier B.V. All rights reserved.

PD JUL

PY 2013

VL 128

IS 1

BP 1

EP 12

ER

PT J

AU Holden, MP

Newcombe, NS

Shiple, TF

AF Holden, Mark P.

Newcombe, Nora S.

Shiple, Thomas F.

TI Location memory in the real world: Category adjustment effects in 3-dimensional space

SO COGNITION

AB The ability to remember spatial locations is critical to human functioning, both in an evolutionary and in an everyday sense. Yet spatial memories and judgments often show systematic errors and biases. Bias has been explained by models such as the Category Adjustment model (CAM), in which fine-grained and categorical information about locations are combined in a Bayesian manner (Huttenlocher, Hedges, & Duncan, 1991). However, experiments testing this model have largely used locations contained in simple geometric shapes and, more recently, 2D scenes. Do the results generalize to location memory in the complex natural world, as they should if the CAM is to provide an over-arching framework for thinking about spatial memory? Here, this issue is addressed using a novel extension of the location memory paradigm that allows for testing of location memory in an everyday, 3D environment. The results support two predictions of the CAM: that memory for locations is biased toward central values, and that the magnitude of error increases with the retention interval. (C) 2013 Elsevier B.V. All rights reserved.

PD JUL

PY 2013

VL 128

IS 1

BP 45

EP 55

ER

PT J

AU Nilsson, NL

AF Nilsson, Nina L.

TI Introduction to Using Informal Reading Inventories in Research and Practice

SO READING & WRITING QUARTERLY

PD JUL

PY 2013

VL 29

IS 3

SI SI

BP 203

EP 207

ER

PT J

AU Applegate, MD

Bucci, C

AF Applegate, Mary DeKonty

Bucci, Carol

TI A Case Study of a Student's Journey Toward Thoughtful Response to Text
SO READING & WRITING QUARTERLY

AB In this article, we describe our research involving the administration of the Critical Reading Inventory-2 (CRI-2), an informal reading inventory that places special emphasis on thoughtful response to text and higher level thinking. We administered the CRI-2 to a group of students to obtain diagnostic data for guiding instruction. The data for this case study indicated that 1 student was strong in text-based comprehension but was clearly struggling with higher level comprehension. Intervention strategies incorporated guided instruction emphasizing themes and character traits. The student also participated in collaborative follow-up activities that included modifications of Question the Author and Discussion Webs. Both of these activities required the use of story information to support the positions that students took in response to the higher level questions. After the completion of the instruction, students completed posttests using the CRI-2. We share the results and discuss the implications for teachers.

PD JUL

PY 2013

VL 29

IS 3

SI SI

BP 252

EP 270

ER

PT J

AU Gandy, SE

AF Gandy, Sandra E.

TI Informal Reading Inventories and ELL Students

SO READING & WRITING QUARTERLY

AB With the increasing amount of testing taking place in classrooms, teachers may question how appropriate those assessments are for the growing numbers of English language learners (ELLs) in the United States. One of the assessment options for classroom teachers is the informal reading inventory (IRI), which is the most frequently used assessment tool for all students. Because of disagreement regarding the reliability and validity of IRIs for use with native English speakers, teachers should exercise greater caution when using them with ELLs, both in choosing the specific IRI and in interpreting the results based on the influence of students' accents on word pronunciations, familiarity with culturally specific content, the kinds of questions asked, and the relevance to classroom instruction and to students' culture. In

addition, teachers should evaluate students' reading ability using several measures rather than a single assessment. Other informal assessments are available for use with ELLs.

PD JUL
PY 2013
VL 29
IS 3
SI SI
BP 271
EP 287
ER

PT J

AU L'Allier, SK

AF L'Allier, Susan K.

TI Lessons Learned From Research About Informal Reading Inventories: Keys to Data-Driven Instructional Recommendations

SO READING & WRITING QUARTERLY

AB This study examined how effectively candidates in an MEd in literacy education with a focus on reading program used the results from the Basic Reading Inventory to develop key instructional recommendations. The results indicated that, overall, candidates made about two thirds of the key recommendations suggested by an expert in the area of reading and reading assessment. Candidates needed to increase the specificity of strategies related to the recommendations and to decrease the number of low-priority recommendations. This article delineates suggestions regarding how teacher educators can help their candidates improve the quality and specificity of recommendations.

PD JUL
PY 2013
VL 29
IS 3
SI SI
BP 288
EP 307
ER

PT J

AU Dealberto, MJ

AF Dealberto, Marie-Jose

TI Are different subtypes of autism spectrum disorders associated with different factors?

SO ACTA PSYCHIATRICA SCANDINAVICA

PD JUL
PY 2013
VL 128

IS 1
BP 1
EP 2
ER

PT J

AU Lovett, BJ

Sparks, RL

AF Lovett, Benjamin J.

Sparks, Richard L.

TI The Identification and Performance of Gifted Students With Learning Disability Diagnoses: A Quantitative Synthesis

SO JOURNAL OF LEARNING DISABILITIES

AB Much has been written about gifted students with learning disabilities, but there have been few large-scale empirical investigations, and the concept has proven controversial. The authors reviewed the available empirical literature on these students, focusing on (a) the criteria by which the students were identified and (b) the students' performance on standardized tests of ability and achievement. In addition, the test scores of these students were aggregated to determine typical performance levels. A total of 46 empirical articles were reviewed, and major findings included wide variability in identification criteria across studies, frequent reliance on dubious methods of learning disability identification, and a lack of academic impairment among the identified students. Implications for the gifted/LD category are discussed.

PD JUL

PY 2013

VL 46

IS 4

BP 304

EP 316

ER

PT J

AU Sood, S

Jitendra, AK

AF Sood, Sheetal

Jitendra, Asha K.

TI An Exploratory Study of a Number Sense Program to Develop Kindergarten Students' Number Proficiency

SO JOURNAL OF LEARNING DISABILITIES

AB This study examined the effectiveness of a number sense program on kindergarten students' number proficiency and responsiveness to treatment as a function of students' risk for mathematics difficulties.

The program targeted development of relationships among numbers (e.g.,

spatial, more and less). A total of 101 kindergarten students (not at risk: 22 control and 36 experimental; at risk: 18 and 25) from five classrooms in a high-poverty elementary school participated in the study. Using a quasi-experimental design, classrooms were randomly assigned to either the intervention (number sense instruction, NSI) or control condition. Results indicated significant differences favoring the treatment students on all measures of number sense (e.g., spatial relationships, more and less relationships, benchmarks of five and ten, nonverbal calculations) at posttest and on a 3-week retention test. Furthermore, the effects were not mediated by at-risk status, suggesting that NSI may benefit a wide range of students. Implications in terms of preventing early mathematical learning difficulties are discussed.

PD JUL

PY 2013

VL 46

IS 4

BP 328

EP 346

ER

PT J

AU Ding, Y

Guo, JP

Yang, LY

Zhang, D

Ning, H

Richman, LC

AF Ding, Yi

Guo, Jian-Peng

Yang, Ling-Yan

Zhang, Dake

Ning, Huan

Richman, Lynn C.

TI Rapid Automated Naming and Immediate Memory Functions in Chinese Children Who Read English as a Second Language

SO JOURNAL OF LEARNING DISABILITIES

AB This study examined reading performance of 102 Chinese Mandarin-speaking 4th graders in their second language (L2, English) as a function of performance in their first language (L1, Chinese). The results revealed that for Rapid Automated Naming (RAN) and Rapid Alternating Stimulus (RAS) measures, the mean naming time decreased monotonically in high-achieving, average, and low-achieving readers. RAN and RAS differentiated poor readers from good and average readers but failed to differentiate between good and average readers. RAN deficits occurred in poor readers in both languages. Comparison of memory profiles revealed that patterns varied depending on the mode of stimulus presentation or

response. Low-achieving readers performed poorly on a subtest involving visual components only and did relatively better on a subtest involving verbal components only. Poor readers in Chinese also encountered difficulties in learning English as a L2. RAN-character accounted for unique variance in two Chinese reading measures. RAN-letter explained unique variance in English mid-term reading grade. The unique variance captured by the Color Span Subtest 1 (visual-visual) was found in Chinese reading comprehension but not in English reading comprehension. Reading performance in L1 was predictive of reading performance in L2 and vice versa.

PD JUL

PY 2013

VL 46

IS 4

BP 347

EP 362

ER

PT J

AU Miranda, A

Presentacion, MJ

Siegenthaler, R

Jara, P

AF Miranda, Ana

Jesus Presentacion, M.

Siegenthaler, Rebeca

Jara, Pilar

TI Effects of a Psychosocial Intervention on the Executive Functioning in Children With ADHD

SO JOURNAL OF LEARNING DISABILITIES

AB The purpose of this study was to analyze the effects of an intensive psychosocial intervention on the executive functioning (EF) in children with ADHD. The treatment was carried out in a coordinated manner over a period of 10 weeks with 27 children with ADHD aged 7 to 10, their parents, and their teachers. A battery of neuropsychological tasks was applied to evaluate attention, interference control, verbal and visuospatial working memory, planning ability, and flexibility. The comparative analysis of the treated group of ADHD children and an untreated ADHD group showed significant differences that were especially important in visuospatial memory and planning in favor of the treated children, even when the scores in the pretreatment phase were included as covariables. Likewise, improvements were observed in the parents' and teachers' behavioral ratings of hyperactivity or impulsivity and inattention. The conclusion was drawn that psychosocial interventions with children with ADHD can have a positive effect on some executive functions.

PD JUL
PY 2013
VL 46
IS 4
BP 363
EP 376
ER

PT J
AU Ready, RE
Chaudhry, MF
Schatz, KC
Strazzullo, S
AF Ready, Rebecca E.
Chaudhry, Maheen F.
Schatz, Kelly C.
Strazzullo, Sarah

TI "Passageless" Administration of the Nelson-Denny Reading Comprehension
Test: Associations With IQ and Reading Skills
SO JOURNAL OF LEARNING DISABILITIES

AB There are few tests that assess reading comprehension in adults, but these tests are needed for a comprehensive assessment of reading disorders (RD). The Nelson-Denny Reading Test (NDRT) has a long-passage reading comprehension component that can be used with adolescents and adults. A problem with the NDRT is that reading comprehension test items can be answered correctly without reading the associated passage. The current study determined how IQ, verbal comprehension, and reading skills were associated with scores on a passageless administration of the NDRT. Results indicated that IQ, verbal comprehension, and broad reading skills were significantly associated with greater NDRT passageless scores. Results raise questions about the validity of the reading comprehension component of the NDRT and suggest that the test may have differential validity based on individual differences in vocabulary, general fund of knowledge, and broad reading skills.

PD JUL
PY 2013
VL 46
IS 4
BP 377
EP 384
ER

PT J
AU Vadasy, PF
Sanders, EA
AF Vadasy, Patricia F.

Sanders, Elizabeth A.

TI Two-year follow-up of a code-oriented intervention for lower-skilled first-graders: the influence of language status and word reading skills on third-grade literacy outcomes

SO READING AND WRITING

AB For 2 years we followed lower-performing English learner (EL) and native English speaking (non-EL) students who participated in an efficacy trial of a supplemental first-grade code-oriented intervention implemented by paraeducators. At the end of grade three, across all students ($n = 180$ of the original 187 students), treatment effects were maintained on word reading (approximate $d = .45$), spelling (.36) and reading comprehension (.24). However, treatment effects tended to be smaller for EL students, and were significantly smaller for spelling in particular. While pretest grade one word reading did not moderate treatment response for either ELs or non-ELs, it was found to strongly predict all three end-of-grade-three outcomes, although to a lesser extent for ELs on reading comprehension. Findings add support to previous research on the benefits of early code-oriented tutoring.

PD JUL

PY 2013

VL 26

IS 6

BP 821

EP 843

ER

PT J

AU Mackie, CJ

Dockrell, J

Lindsay, G

AF Mackie, Clare J.

Dockrell, Julie

Lindsay, Geoff

TI An evaluation of the written texts of children with SLI: the contributions of oral language, reading and phonological short-term memory

SO READING AND WRITING

AB In this study, we performed a fine grained analysis of writing by children with a specific language impairment (SLI) and examined the contribution of oral language, phonological short-term memory (STM), nonverbal ability, and word reading to three writing constructs (productivity, complexity and accuracy). Forty-six children with SLI were compared with 42 children matched for chronological age, receptive vocabulary ($N = 46$) and reading decoding ($N = 46$) on a measure of narrative writing. The SLI group performed worse on all measures compared to children of a similar chronological age. The SLI group

produced a greater proportion of orthographic spelling errors than children with similar receptive vocabularies, but were comparable to children matched for reading decoding. The children with SLI showed specific difficulties in the omission of whole words (e.g. auxiliary verbs and subject nouns) and omissions of grammatical morphology (e.g. past tense-ed) reflecting the difficulties shown in their oral language. Receptive grammar made a significant contribution to writing complexity and accuracy. Phonological fluency contributed to writing productivity, such as the production of diverse vocabulary, ideas and content and writing fluency. Phonological STM and word reading explained additional variance in writing accuracy over and above the SLI group's oral language skills.

PD JUL

PY 2013

VL 26

IS 6

BP 865

EP 888

ER

PT J

AU Ford, KL

Cabell, SQ

Konold, TR

Invernizzi, M

Gartland, LB

AF Ford, Karen L.

Cabell, Sonia Q.

Konold, Timothy R.

Invernizzi, Marcia

Gartland, Lauren B.

TI Diversity among Spanish-speaking English language learners: profiles of early literacy skills in kindergarten

SO READING AND WRITING

AB This study explored heterogeneity in literacy development among 2,300 Hispanic children receiving English as a Second Language (ESL) services at the start of kindergarten. Two research questions guided this work:

(1) Do Spanish-speaking English language learners receiving ESL services in the fall of kindergarten demonstrate homogeneous early literacy skills, or are there distinct patterns of achievement across measures of phonological awareness, alphabet knowledge, and orthography? and (2) if there are distinct profiles, to what extent do they predict literacy achievement at the end of kindergarten and the beginning of first grade?

Using cluster analysis, the authors identified four distinct literacy profiles derived from fall kindergarten measures of phonological awareness, alphabet knowledge, and phonetic spelling. These profiles

were found to be associated with literacy outcomes in spring of kindergarten and fall of first grade. The two profiles that were associated with greater success on later measures of concept of word in text, letter sound knowledge, word reading, and spelling were the two that included stronger performance on orthographic skills (i.e., alphabet knowledge and phonetic spelling). These findings demonstrated that there is heterogeneity among Hispanic ESL students at kindergarten entry and suggested that literacy instruction must be differentiated from the very beginning in order to meet students' individual needs. The findings also suggested that orthographic skills should be assessed and taught early on. While phonological awareness may be a necessary precursor to reading, phonological awareness in the absence of orthographic skills may not be sufficient.

PD JUL

PY 2013

VL 26

IS 6

BP 889

EP 912

ER

PT J

AU Uchikoshi, Y

AF Uchikoshi, Yuuko

TI Predictors of English reading comprehension: Cantonese-speaking English language learners in the US

SO READING AND WRITING

AB In this paper, first language (L1) and second language (L2) oral language and word reading skills were used as predictors to devise a model of reading comprehension in young Cantonese-speaking English language learners (ELLs) in the United States. L1 and L2 language and literacy measures were collected from a total of 101 Cantonese-speaking ELLs during the early spring of second grade. Results show that English vocabulary and English word decoding, as measured with real and nonsense words, played significant roles in English reading comprehension. In particular, results highlight the crucial role of English vocabulary in the development of L2 English literacy skills. English listening comprehension did not predict English reading comprehension. Theoretical and practical implications are discussed.

PD JUL

PY 2013

VL 26

IS 6

BP 913

EP 939

ER

PT J

AU Koutsoftas, AD

Gray, S

AF Koutsoftas, Anthony D.

Gray, Shelley

TI A structural equation model of the writing process in typically-developing sixth grade children

SO READING AND WRITING

AB The purpose of this study was to evaluate how sixth grade children planned, translated, and revised written narrative stories using a task reflecting current instructional and assessment practices. A modified version of the Hayes and Flower (1980) writing process model was used as the theoretical framework for the study. Two hundred one sixth-grade students participated in a three-day writing task. On the first day they generated ideas for their story, on the second day they produced a first draft, and on the third day they revised their draft to produce a final copy. Scores from each day's writing were used as measured variables representing the latent variables of planning, translating, and revising. Confirmatory structural equation modeling results suggested that the latent variable of planning had a moderate relationship to translating and that translating had a stronger than expected relationship with revising. Significant paths between measured and latent variables demonstrated the relative contribution of skills towards the writing process. The approach used in this study highlighted the linear manner in which intermediate grade children write. Findings suggest that planning had a direct effect on translating, but no direct effect on revising. There was a strong relationship between translating and revising, suggesting few differences between students' first and final drafts.

PD JUL

PY 2013

VL 26

IS 6

BP 941

EP 966

ER

PT J

AU Zhou, L

Peng, G

Zheng, HY

Su, IF

Wang, WSY

AF Zhou, Lin

Peng, Gang

Zheng, Hong-Ying

Su, I-Fan

Wang, William S-Y.

TI Sub-lexical phonological and semantic processing of semantic radicals: a primed naming study

SO READING AND WRITING

AB Most sinograms (i.e., Chinese characters) are phonograms (phonetic compounds). A phonogram is composed of a semantic radical and a phonetic radical, with the former usually implying the meaning of the phonogram, and the latter providing cues to its pronunciation. This study focused on the sub-lexical processing of semantic radicals which are themselves free standing sinograms. Two primed naming experiments were carried out to examine whether the meanings and pronunciations of the semantic radicals embedded in phonograms were activated or not during sinogram recognition. In Experiment 1, semantically opaque phonograms were used as primes. We observed facilitatory priming effects for targets which were semantically related to the semantic radicals embedded in primes, but not to the primes themselves. These effects were present for low-frequency primes, but not for high-frequency primes. Experiment 2 used only low-frequency phonograms as primes. We observed facilitatory priming effects for targets which were homophones of the semantic radicals embedded in primes, but not of the primes themselves. These results suggest that sub-lexical semantic and phonological information of semantic radicals are activated, and that the activation processes are modulated by the lexical frequency of the host phonograms. Our study shows that sub-lexical processing of semantic radicals is similar to that of phonetic radicals, indicating no fundamental difference between sub-lexical processing of semantic and phonetic radicals, supporting the view that a radical has a unique representation irrespective of its function in the orthographic system of Taft's model.

PD JUL

PY 2013

VL 26

IS 6

BP 967

EP 989

ER

PT J

AU Sumner, E

Connelly, V

Barnett, AL

AF Sumner, Emma

Connelly, Vincent

Barnett, Anna L.

TI Children with dyslexia are slow writers because they pause more often

and not because they are slow at handwriting execution

SO READING AND WRITING

AB It is commonly assumed that children with dyslexia are slower at handwriting than other children. However, evidence of slow handwriting in children with dyslexia is very mixed. Thirty-one children with dyslexia, aged 9 years, were compared to both age-matched children and younger spelling-ability matched children. Participants completed an alphabet-writing task and a composition task on the surface of a digital writing tablet. Children with dyslexia wrote the same amount of letters per minute in the alphabet task but wrote fewer words per minute when composing their texts than children of the same age. Crucially, no differences were found between children with dyslexia and their same age peers for speed of handwriting execution, measured by the tablet, when writing the alphabet or composing their texts. However, children with dyslexia were found to pause within their compositions as often as the spelling ability matched group. Thus handwriting execution is not impaired in children with dyslexia. The slow writing that is typical of children with dyslexia is due to pausing more often when composing and is related to spelling ability. This may reflect processing problems in response to high cognitive load through having to contend with spelling and composing concurrently.

PD JUL

PY 2013

VL 26

IS 6

BP 991

EP 1008

ER

PT J

AU van Daal, V

van der Leij, A

Ader, H

AF van Daal, Victor

van der Leij, Aryan

Ader, Herman

TI Specificity and overlap in skills underpinning reading and arithmetical fluency

SO READING AND WRITING

AB The aim of this study was to examine unique and common causes of problems in reading and arithmetic fluency. 13- to 14-year-old students were placed into one of five groups: reading disabled (RD, n = 16), arithmetic disabled (AD, n = 34), reading and arithmetic disabled (RAD, n = 17), reading, arithmetic, and listening comprehension disabled (TRIPLE, n = 9), and typically developing students (NON-LD, n = 40). Multivariate analyses of covariance and variance component analyses

showed that reading problems are characterised by difficulties with phonological processing and with rapid automatic naming. Problems with executive functioning and with digit span were typical for students with arithmetical fluency difficulties. RAD students had problems with phonological processing, rapid naming, executive functioning, and digit span. Impairments in number fact fluency, digit span, loudness perception, speeded sound manipulation, and coding, which all share a fluency component were common to problems with reading and arithmetical fluency.

PD JUL
PY 2013
VL 26
IS 6
BP 1009
EP 1030
ER

PT J
AU Arnold, LE
AF Arnold, L. Eugene
TI Introduction: EEG Brain Waves: A Wave of the Future or Past?
SO JOURNAL OF ATTENTION DISORDERS

PD JUL
PY 2013
VL 17
IS 5
BP 371
EP 373
ER

PT J
AU Loo, SK
Cho, A
Hale, TS
McGough, J
McCracken, J
Smalley, SL
AF Loo, Sandra K.
Cho, Alexander
Hale, T. Sigi
McGough, James
McCracken, James
Smalley, Susan L.
TI Characterization of the Theta to Beta Ratio in ADHD: Identifying Potential Sources of Heterogeneity
SO JOURNAL OF ATTENTION DISORDERS

AB Objective: The goal of this study is to characterize the theta to beta ratio (THBR) obtained from electroencephalogram (EEG) measures, in a large sample of community and clinical participants with regard to (a) ADHD diagnosis and subtypes, (b) common psychiatric comorbidities, and (c) cognitive correlates. Method: The sample includes 871 participants (595 youth and 276 adults) with and without ADHD. All participants underwent extensive assessment, including semistructured diagnostic interviews, cognitive testing, and EEG recording. Results: The THBR did not differ significantly by ADHD status for youth but was significantly lower in adults with ADHD compared with controls. ADHD subtype and psychiatric comorbidities such as disruptive behavior disorders and depression have opposing and significant mediating effects on the THBR. Conclusion: The THBR is affected by several mediating factors associated with ADHD such as ADHD subtype and psychiatric comorbidity. More research is needed to understand the functional significance of the THBR in ADHD.

PD JUL

PY 2013

VL 17

IS 5

BP 384

EP 392

ER

PT J

AU Mayer, K

Wyckoff, SN

Strehl, U

AF Mayer, Kerstin

Wyckoff, Sarah N.

Strehl, Ute

TI One Size Fits All? Slow Cortical Potentials Neurofeedback: A Review

SO JOURNAL OF ATTENTION DISORDERS

AB Objective: The intent of this manuscript was to review all published studies on slow cortical potentials (SCP) neurofeedback for the treatment of ADHD, with emphasis on neurophysiological rationale, study design, protocol, outcomes, and limitations. Method: For review, PubMed, MEDLINE, ERIC, and Google Scholar searches identified six studies and six subsequent publications. In addition to five studies focusing on children with Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV)-diagnosed ADHD, one study reports on adults. Results: SCP protocols utilize unipolar-electrode placement at Cz, randomized bidirectional signal regulation, feedback/transfer trials, and discrete feedback/rewards. Results demonstrated learning of SCP self-regulation, moderate to large within group effect sizes for core ADHD symptom reduction, and enhancement of event-related

potentials/electroencephalogram components. Neurophysiological and session variables were predictive of treatment outcome, but open questions of specific and nonspecific effects remain. Study limitations and future directions are discussed. Conclusion: SCP is an efficacious and standardized neurofeedback protocol that addresses behavioral and neurophysiological deficits in ADHD.

PD JUL

PY 2013

VL 17

IS 5

BP 393

EP 409

ER

PT J

AU Arnold, LE

Arns, M

Conners, K

deBeus, R

Hirshberg, L

Kerson, C

Kraemer, H

Lofthouse, N

Lubar, J

McBurnett, K

Monastra, V

AF Arnold, L. Eugene

Arns, Martijn

Conners, Keith

deBeus, Roger

Hirshberg, Laurence

Kerson, Cynthia

Kraemer, Helena

Lofthouse, Nicholas

Lubar, Joel

McBurnett, Keith

Monastra, Vince

CA Collaborative Neurofeedback Grp

TI A Proposed Multisite Double-Blind Randomized Clinical Trial of Neurofeedback for ADHD: Need, Rationale, and Strategy

SO JOURNAL OF ATTENTION DISORDERS

AB Objective: Additional treatments with persisting benefit are needed for ADHD. Because ADHD often shows excessive theta electroencephalogram (EEG) power, low beta, and excessive theta-beta ratio (TBR), a promising treatment is neurofeedback (NF) downtraining TBR. Although several nonblind randomized clinical trials (RCTs) show a medium-large benefit

for NF, a well-blinded, sham-controlled RCT is needed to differentiate specific from nonspecific effects. Method: Experts in NF, ADHD, clinical trials, and statistics collaborated to design a double-blind multisite RCT. Results/Conclusion: At four sites, 180 children aged 7 to 10 years with rigorously diagnosed ADHD and TBR ≥ 5 will be randomized to active TBR-NF versus sham NF of equal duration, intensity, and appearance. Sham, utilizing prerecorded EEGs with participant artifacts superimposed, will keep participants and staff blind. Treatment fidelity will be trained/monitored by acknowledged NF leaders. Multidomain assessments before, during, and after treatment (follow-up to 2 years) will also include tests of blinding and sham inertness.

PD JUL

PY 2013

VL 17

IS 5

BP 420

EP 436

ER

PT J

AU Efstratopoulou, M

Simons, J

Janssen, R

AF Efstratopoulou, Maria

Simons, Johan

Janssen, Rianne

TI Concordance Among Physical Educators', Teachers', and Parents'

Perceptions of Attention Problems in Children

SO JOURNAL OF ATTENTION DISORDERS

AB Objective: The study examined the concordance among rating sources on attention problems of elementary school-aged children. Method: A

randomly selected sample (N = 841) of children was rated by the physical

educators, the teachers, and the parents, using the Attention Scales of

the Motor Behavior Checklist (MBC), the Teacher Report Form, the Child

Behavior Checklist, and the ADHD-Rating Scale-IV (ADHD-RS-IV). Results:

Convergent validity of the Lack of Attention Scale of the MBC with the

corresponding subscales was supported. Correlations were higher between

teachers' ratings and between physical educators' and teachers' ratings

than between physical educators' and parents' ratings or between

teachers' and parents' ratings. Conclusion: Findings underscore the

importance of taking the child's settings and observer influences into

account and suggest that MBC is a new promising instrument for screening

attention problems in school settings.

PD JUL

PY 2013

VL 17

IS 5
BP 437
EP 443
ER

PT J
AU Mattos, P
Louza, MR
Palmini, ALF
de Oliveira, IR
Rocha, FL

AF Mattos, Paulo
Louza, Mario Rodrigues
Fernandes Palmini, Andre Luis
de Oliveira, Irismar Reis
Rocha, Fabio Lopes

TI A Multicenter, Open-Label Trial to Evaluate the Quality of Life in
Adults With ADHD Treated With Long-Acting Methylphenidate (OROS MPH):
Concerta Quality of Life (CONQoL) Study
SO JOURNAL OF ATTENTION DISORDERS

AB The available literature provides few studies on the effectiveness of
methylphenidate in improving quality of life in individuals with ADHD.

Objective: To assess the effectiveness of Methylphenidate OROS
formulation (OROS MPH) through QoL in adults with ADHD. Method: A
12-week, multicenter, open-label trial involving 60 patients was used.
The measures used were Adult Self-Rating Scale, Adult ADHD Quality of
Life Scale (AAQoL), State and Trait Anxiety Inventory (STAI), Hamilton
Depression Rating Scale (HAM-D), Clinical Global Impression (CGI), and
safety measures. A significance statistic level of 5% was adopted.

Results: Analyses included 60 patients (66.7% male; M age = 31.1 years)
for safety and 58 patients for effectiveness. All AAQoL subscales
improved from baseline to Week 12 ($p < .0001$), as well as the Total
AAQoL ($p < .0001$). A significant reduction on Clinical Global
Impression-Improvement (CGI-I), HAM-D, STAI, and ASRS scores was
observed ($p < .0001$). No serious adverse event was reported. Conclusion:
Treatment of adult ADHD patients with OROS MPH improves QoL.

PD JUL
PY 2013
VL 17
IS 5
BP 444
EP 448
ER

PT J
AU Fuller-Killgore, MD

Burlison, J

Dwyer, W

AF Fuller-Killgore, Melissa D.

Burlison, Jonathan

Dwyer, William

TI Comparison of Three ADHD Screening Instruments in College Students of Varying Cognitive Ability

SO JOURNAL OF ATTENTION DISORDERS

AB Objective: To assess three of the better known screeners for Attention Deficit/Hyperactive Disorder (ADHD) and review the relationship between ADHD and cognitive ability. Method: The three ADHD screeners were administered to 111 college students enrolled in a college Introductory Psychology class, on whom ACT scores and total course performance were also available. As a measure of cognitive ability, the Wonderlic Personnel Test (Wonderlic, Inc., 2000) was also administered. Furthermore, self-report data were available from participants who had been diagnosed with ADHD. The three screeners were the Adult ADHD Self-Report Scale (ASRS) (Kessler et al., 2005), the Conners' Adult ADHD Rating Scale-Self-Report: Long Version (CAARS) (Conners, Erhardt, & Sparrow, 1999), and the Brown ADD Scales (Brown, 1996). Results: The results are discussed in terms of the scales' reliability, as well as their relationship to academic aptitude, class performance, and their ability to identify self-reported ADHD diagnoses. Conclusion: All three screeners exhibited acceptable reliability levels. Criterion validity was demonstrated by the relationship between the CAARS's inattention subscale and self-reported cases of ADHD. Criterion validity was also seen in the relationship found between the CAARS's hyperactivity/restlessness subscale and the total course performance even after controlling for cognitive ability. Contrary to past research cognitive ability exhibited a weak but significant relationship with a few screeners and screener subscales.

PD JUL

PY 2013

VL 17

IS 5

BP 449

EP 454

ER

PT J

AU Stoeger, H

AF Stoeger, Heidrun

TI Thinking outside the box: gifted education, expertise research, and general research on learning and instruction

SO HIGH ABILITY STUDIES

PD JUN

PY 2013
VL 24
IS 1
BP 1
EP 2
ER

PT J

AU De Corte, E

AF De Corte, Erik

TI Giftedness considered from the perspective of research on learning and instruction

SO HIGH ABILITY STUDIES

AB This article argues that research and educational practices relating to gifted students can highly benefit by linking up more closely with the mainstream of research on learning and instruction. The CLIA-model for the design of powerful learning environments that consists of four interconnected components (Competence, Learning, Intervention, and Assessment) is thereby used as a framework. The kind of learning processes needed to acquire adaptive competence are well in tune with features of exceptional performance, namely active, constructive, self-regulated and goal-oriented learning. Therefore gifted students should be taught in powerful learning environments that induce in them learning processes that embody those characteristics. Interventions focused on gifted students such as acceleration, grouping and differentiated instruction can benefit from taking into account the components and characteristics of the CLIA-model.

PD JUN

PY 2013

VL 24

IS 1

BP 3

EP 19

ER

PT J

AU Felver, JC

Doerner, E

Jones, J

Kaye, NC

Merrell, KW

AF Felver, Joshua C.

Doerner, Erin

Jones, Jeremy

Kaye, Nicole C.

Merrell, Kenneth W.

TI MINDFULNESS IN SCHOOL PSYCHOLOGY: APPLICATIONS FOR
INTERVENTION AND
PROFESSIONAL PRACTICE
SO PSYCHOLOGY IN THE SCHOOLS

AB Although the use of mindfulness is increasing in other areas of applied psychology, school psychology has yet to embrace it in practice. This article introduces school psychologists to the burgeoning field of mindfulness psychology and to the possibilities that it offers to their discipline. A background on the Western scientific study and application of mindfulness provides a theoretical foundation to those unfamiliar with the topic. We then discuss the application of mindfulness technologies to various forms of service provision in the professional practice of school psychology. The innovative and novel avenues that mindfulness psychology offers to psychological science

PD JUN

PY 2013

VL 50

IS 6

BP 531

EP 547

ER

PT J

AU Barnard-Brak, L

Stevens, T

Robinson, E

Holt, A

AF Barnard-Brak, Lucy

Stevens, Tara

Robinson, Eric

Holt, Ann

TI SCHOOL PSYCHOLOGIST DIAGNOSTIC DECISION-MAKING: A PILOT STUDY
SO PSYCHOLOGY IN THE SCHOOLS

AB The current study examined the diagnostic decision-making of school psychologists as a function of a student's disability and academic performance with three research questions using a randomly-selected sample of school psychologists from the state of Texas. Results from the first research question indicated that school psychologists significantly differentiated between what diagnoses were considered most correct according to the DSM-IV and what diagnoses would be in a child's best interest at school. Results from the second research question indicated that this differentiation in diagnostic decision-making was present as significantly associated with academic performance. Results from the third and final research question indicated that school psychologists differed in their diagnostic decision-making according to their perceptions about the particular disability.

PD JUN
PY 2013
VL 50
IS 6
BP 567
EP 576
ER

PT J
AU Halford, GS
Andrews, G
Phillips, S
Wilson, WH
AF Halford, Graeme S.
Andrews, Glenda
Phillips, Steven
Wilson, William H.

TI The Role of Working Memory in the Subsymbolic-Symbolic Transition
SO CURRENT DIRECTIONS IN PSYCHOLOGICAL SCIENCE
AB In this article, a proposal is made for a new account of the subsymbolic-to-symbolic transition based on a contemporary conception of working memory. Symbolic cognition is a constituent of reasoning and language and requires an operating system that is flexible and can produce novel, yet coherent, representations of relations that are useful in adapting to the environment. Acquisition of such an operating system depends on dynamic binding to a coordinate system in working memory. Recent studies with infants have indicated that this ability develops late in the 1st year of life, which corresponds to the time when symbols emerge in infant cognition. It also corresponds to the time when infants cease to make the A-not-B error, which depends on dynamic creation of a link in memory between an object and its location in space. We propose that such dynamic binding is a previously unrecognized marker of the symbolic transition. Emergence of symbolic processes (e.g., language, theory of mind) should be predicted longitudinally by dynamic binding to a coordinate system.

PD JUN
PY 2013
VL 22
IS 3
BP 210
EP 216
ER

PT J
AU Breton, TR
AF Breton, Theodore R.

TI The role of education in economic growth: theory, history and current returns

SO EDUCATIONAL RESEARCH

AB Background

This paper was prepared to address the issue of whether current levels of public expenditures on education are cost-effective in countries with widely differing average levels of education.

Purpose

The paper examines the role of education in economic growth from a theoretical and historic perspective, addresses why education has been the limiting factor determining growth, discusses why certain countries have provided education to the masses and others have not, provides estimates of the quantitative importance of the direct and the indirect effects of education on the economy, calculates the marginal national return on investment for 60 countries, and examines the implications of these results for government policy.

Methodology

The paper presents the results from other studies and estimates the marginal product of human capital and of physical capital and the relative importance of post-secondary education in 2005 using cross-country estimates of national income and the stocks of human capital and physical capital. The estimates of the stocks of human capital were developed from historic rates of public and private investment in schooling, the cost of capital during schooling, and students' foregone earnings.

Results

The paper presents evidence that education has direct and indirect effects on national output. Educated workers raise national income directly because schooling raises their marginal productivity. They raise national income indirectly by increasing the marginal productivity of physical capital and of other workers. In highly educated countries the spillover effect on other workers is minimal, but in less-educated countries the spillover effect appears to be much larger. In all countries, the positive effect of rising human capital on the productivity of physical capital is required to offset the diminishing returns to investment in physical capital and make rising investment in physical capital financially viable in the growth process. The empirical results indicate that investment in schooling is subject to diminishing returns but that the marginal return at the national level is still considerable in highly educated countries, over 10% in 2005. In the least educated countries, the marginal return is much larger, in excess of 50%, but since most of this effect is indirect, its magnitude is not generally appreciated. Achievement of these returns requires public investment in education because the direct return to the educated individual is insufficient to overcome the high cost of private financing. The results also indicate that investment in post-secondary

education does not provide any additional effect on national income beyond the effect of investment in education generally. The implication is that governments may allocate their limited funds to primary and secondary schooling of the poor without suffering a loss in GDP growth.

Conclusions

These very high macro-marginal returns to education make it possible for poor countries to grow very rapidly if they make a major public commitment to raising the average level of schooling of the masses.

PD JUN

PY 2013

VL 55

IS 2

SI SI

BP 121

EP 138

ER

PT J

AU Machin, S

McNally, S

Wyness, G

AF Machin, Stephen

McNally, Sandra

Wyness, Gill

TI Educational attainment across the UK nations: performance, inequality and evidence

SO EDUCATIONAL RESEARCH

AB Background

Political devolution occurred in the UK in 1998-99, following many years in which some degree of policy administration had been devolved to the four nations. Since devolution, all four countries of the UK have pursued increasingly divergent education policies. This is true in England in particular, where diversity, choice and competition have become a key focus of education policy. This political divergence between the four nations gives us the opportunity to appraise differences and similarities in educational policies and outcomes in the four UK nations.

Purpose

This article is a comparative review of the education reforms of the constituent countries of the UK, with particular focus on value for money. The main aims of the article are to (1) outline the key differences in the educational systems in terms of school type, choice and competition, educational resources and pedagogy; (2) describe how the countries compare in terms of educational attainment during compulsory schooling years; (3) examine inequalities in educational attainment, such as by gender and socio-economic status, and how the

different countries compare on these measures; and (4) examine existing evidence on the effectiveness and value for money of different education policies and programmes in the different countries.

Sources of evidence

We use a variety of sources of evidence to achieve these aims. We undertake a literature review of the existing evidence on the effectiveness and value for money of different programmes and policies that have taken place across the UK. We also collate and undertake an analysis of data on educational outcomes from published statistics sourced from the national statistics offices of each country. It is easier to be confident about comparisons based on international data sets because in this case all students will have taken exactly the same test, so we also compile and analyse survey data from international surveys of educational attainment such as PISA, PIRLS and TIMSS.

Main argument

We argue that while the systems of the four countries of the UK are becoming increasingly divergent, there are still many similarities. This is borne out in the evidence on educational outcomes, which show many similarities between the four countries. Because of these similarities, the positive impacts of many of the policies and programmes adopted in England may have relevance for Scotland, Wales and Northern Ireland.

Conclusions

We find evidence that increasing school resources improves results, and also that more targeted spending benefits able pupils from disadvantaged backgrounds. We also find positive results of several programmes. Evaluating the education policies of the four nations in terms of value for money - and therefore whether they have scope to be adopted - represents a bigger challenge. Whilst the value for money of certain policies - such as the literacy hour - can be reasonably well measured, for many other policies, value for money is hard to pin down accurately. However, this forms an important direction for future research.

PD JUN

PY 2013

VL 55

IS 2

SI SI

BP 139

EP 164

ER

PT J

AU Khupe, C

Balkwill, K

Osman, R

Cameron, A

AF Khupe, Constance

Balkwill, Kevin
Osman, Ruksana
Cameron, Ann

TI A needle in a haystack: a search for value for money in turn-around strategies for schools in difficult circumstances

SO EDUCATIONAL RESEARCH

AB Background

While current investments in school improvement occur in the context of the worldwide economic downturn, in the South African context, there is in addition widespread disparity in education provision and attainment related to pre-democracy race-based patterns. Despite the education sector receiving the largest national annual budget allocation (at least 20%), and non-governmental organisations (NGOs), the business sector and even international aid agencies spending millions on school improvement projects, efforts at school improvement have not translated into the desired learning outcomes for students (reflected, for instance, in international comparison tests like TIMSS). This situation calls for deliberation on what constitutes value for money' in school improvement.

Purpose

In this paper we present a review of school improvement interventions in South Africa, with a view to discussing their efficiency and effectiveness in the local context.

Design and methods

The review of school improvement interventions in South Africa involved a systematic search of published and unpublished reports of South African schooling interventions, by both national education agencies and NGOs, aimed at improving the quality of schooling. Desktop searches were conducted on Google Scholar, targeting journals published in the last 10 years (2002 to 2011). Information on unpublished interventions was derived from sources outside of academic documents (e.g. annual reports and personal communications). Snowball sampling was used to reach as many projects as possible, starting from interventions in Johannesburg, which is the most populous city and economic centre of South Africa. Fifty published reports and 75 unpublished reports were reviewed. The information from each report was entered on a spreadsheet according to the aspects of schooling the intervention addressed. The data were then summarised using descriptive statistics and graphs.

Conclusions

Evidence from the review suggests that in the South African context, where access and equity in education are yet to be achieved for the majority of the population, value for money' is achieved most effectively when there is connectedness' across sectors (especially education, health and social services), and when value is in terms of gains for the whole of society or the common good.

PD JUN

PY 2013

VL 55
IS 2
SI SI
BP 165
EP 179
ER

PT J

AU Jensen, VM

AF Jensen, Vibeke Myrup

TI Working longer makes students stronger? The effects of ninth grade classroom hours on ninth grade student performance

SO EDUCATIONAL RESEARCH

AB Background

Despite much discussion on the role of education policy on school and student performance, we know little about the effects of school spending at the margin on student cognitive achievement beyond the effects of class size.

Purpose

The paper examines the effects of annual ninth grade classroom hours in literacy and maths on ninth grade (aged 16) student performance in writing and maths, respectively.

Programme description

In Denmark, primary school consists of the first to the ninth grades. Before 2003, only few national regulations governed classroom hour administration in public primary schools, resulting in large variations in the number of classroom hours across the country. Thus, following national discussions about improving skill formation in a heterogeneous student body, in July 2003 the Danish Ministry of Education made changes to classroom hour planning that immediately reduced variation in classroom hours across schools.

Sample

I use a sample of 64% of all ninth grade students (aged 16) in Denmark in 2003-2006, equivalent to 144,739 students and 921 schools (58%) for literacy and 144,618 students and 924 schools (58%) for maths. Using data from administrative records from various registers and through unique personal and institution identifiers, I first link school characteristics to the students and, second, link students to a long list of individual and parental background characteristics.

Design and Methods

The paper exploits the unique policy-induced variation in classroom hours in a one-year period before and a three-year period after the reform. As Danish municipalities are the local school authorities and as the reform narrowed the gap in classroom hours across them, the municipalities experienced differences in intensity to treatment. Thus I use a school fixed-effects model, where an interaction-term between the

continuous treatment - classroom hours - and the year of policy implementation define the effects of classroom hours in literacy and maths on student achievement in writing and maths, respectively.

Results

On average, the reform changed classroom hours by 2.2-3.3% in literacy and maths, with an impact on student achievement. For literacy I find no significant effects of classroom hours, but for maths I find stronger effects. One additional hour per year increases the maths score by 0.21% of a standard deviation, decreases the probability of obtaining a test score below the mean by 0.01%, and increases the probability of obtaining a test score above the mean by 0.08%. One possible explanation for this difference between subjects is that training in literacy takes place in the home environment more than maths and thus is less sensitive to classroom hour changes.

Conclusions

The findings are considerably important when placed in the context of debates about intra-school resource allocation. In maths, classroom hours changed on average only by 2.63 annual hours from 2003 to 2004. However, I still find effects of these generally small changes to classroom hours; thus student achievements are sensitive to even small changes in classroom hours.

PD JUN

PY 2013

VL 55

IS 2

SI SI

BP 180

EP 194

ER

PT J

AU Alarcon-Rubio, D

Sanchez-Medina, JA

Winsler, A

AF Alarcon-Rubio, David

Sanchez-Medina, Jose A.

Winsler, Adam

TI Private Speech in Illiterate Adults: Cognitive Functions, Task Difficulty, and Literacy

SO JOURNAL OF ADULT DEVELOPMENT

AB Children's private speech has been widely studied among children, but it is clear that adults use private speech as well. In this study, illiterate adults' private speech during a "school-like" task was explored as a function of literacy level and task difficulty in a sample of 126 adults enrolled in a public literacy program. A main effect for literacy level was found-private speech was more internalized and less

externalized among adults with higher literacy levels. Externalized private speech was more frequently observed among illiterate adults engaged in the most difficult task. Private speech served cognitive functions as indicated by the proportion of self-regulatory private speech and the proportion of private speech preceding actions being higher in the advanced literacy group and among illiterate adults doing the easier task. Internalized private speech, self-regulatory private speech, and private speech preceding action were each positively correlated with performance and negatively correlated with time to complete the task. The use of private speech in illiterate adults appears to be linked to the mastery of cultural experiences, such as literacy, similar to the self-talk of children.

PD JUN

PY 2013

VL 20

IS 2

BP 100

EP 111

ER

PT J

AU Chen, JS

Torre, J

Zhang, Z

AF Chen, Jinsong

Torre, Jimmy

Zhang, Zao

TI Relative and Absolute Fit Evaluation in Cognitive Diagnosis Modeling

SO JOURNAL OF EDUCATIONAL MEASUREMENT

AB As with any psychometric models, the validity of inferences from cognitive diagnosis models (CDMs) determines the extent to which these models can be useful. For inferences from CDMs to be valid, it is crucial that the fit of the model to the data is ascertained. Based on a simulation study, this study investigated the sensitivity of various fit statistics for absolute or relative fit under different CDM settings.

The investigation covered various types of model-data misfit that can occur with the misspecifications of the Q-matrix, the CDM, or both. Six fit statistics were considered: $-2 \log$ likelihood ($-2LL$), Akaike's information criterion (AIC), Bayesian information criterion (BIC), and residuals based on the proportion correct of individual items (p), the correlations (r), and the log-odds ratio of item pairs (l). An empirical example involving real data was used to illustrate how the different fit statistics can be employed in conjunction with each other to identify different types of misspecifications. With these statistics and the saturated model serving as the basis, relative and absolute fit evaluation can be integrated to detect misspecification efficiently.

PD SUM
PY 2013
VL 50
IS 2
BP 123
EP 140
ER

PT J

AU Belov, DI
AF Belov, Dmitry I.

TI Detection of Test Collusion via Kullback-Leibler Divergence

SO JOURNAL OF EDUCATIONAL MEASUREMENT

AB The development of statistical methods for detecting test collusion is a new research direction in the area of test security. Test collusion may be described as large-scale sharing of test materials, including answers to test items. Current methods of detecting test collusion are based on statistics also used in answer-copying detection. Therefore, in computerized adaptive testing (CAT) these methods lose power because the actual test varies across examinees. This article addresses that problem by introducing a new approach that works in two stages: in Stage 1, test centers with an unusual distribution of a person-fit statistic are identified via Kullback-Leibler divergence; in Stage 2, examinees from identified test centers are analyzed further using the person-fit statistic, where the critical value is computed without data from the identified test centers. The approach is extremely flexible. One can employ any existing person-fit statistic. The approach can be applied to all major testing programs: paper-and-pencil testing (P&P), computer-based testing (CBT), multiple-stage testing (MST), and CAT. Also, the definition of test center is not limited by the geographic location (room, class, college) and can be extended to support various relations between examinees (from the same undergraduate college, from the same test-prep center, from the same group at a social network). The suggested approach was found to be effective in CAT for detecting groups of examinees with item pre-knowledge, meaning those with access (possibly unknown to us) to one or more subsets of items prior to the exam.

PD SUM
PY 2013
VL 50
IS 2
BP 141
EP 163
ER

PT J

AU Debeer, D
Janssen, R
AF Debeer, Dries
Janssen, Rianne

TI Modeling Item-Position Effects Within an IRT Framework

SO JOURNAL OF EDUCATIONAL MEASUREMENT

AB Changing the order of items between alternate test forms to prevent copying and to enhance test security is a common practice in achievement testing. However, these changes in item order may affect item and test characteristics. Several procedures have been proposed for studying these item-order effects. The present study explores the use of descriptive and explanatory models from item response theory for detecting and modeling these effects in a one-step procedure. The framework also allows for consideration of the impact of individual differences in position effect on item difficulty. A simulation was conducted to investigate the impact of a position effect on parameter recovery in a Rasch model. As an illustration, the framework was applied to a listening comprehension test for French as a foreign language and to data from the PISA 2006 assessment.

PD SUM

PY 2013

VL 50

IS 2

BP 164

EP 185

ER

PT J

AU Jiao, H

Wang, SD

He, W

AF Jiao, Hong

Wang, Shudong

He, Wei

TI Estimation Methods for One-Parameter Testlet Models

SO JOURNAL OF EDUCATIONAL MEASUREMENT

AB This study demonstrated the equivalence between the Rasch testlet model and the three-level one-parameter testlet model and explored the Markov Chain Monte Carlo (MCMC) method for model parameter estimation in WINBUGS. The estimation accuracy from the MCMC method was compared with those from the marginalized maximum likelihood estimation (MMLE) with the expectation-maximization algorithm in ConQuest and the sixth-order Laplace approximation estimation in HLM6. The results indicated that the estimation methods had significant effects on the bias of the testlet variance and ability variance estimation, the random error in the ability parameter estimation, and the bias in the item difficulty

parameter estimation. The Laplace method best recovered the testlet variance while the MMLE best recovered the ability variance. The Laplace method resulted in the smallest random error in the ability parameter estimation while the MCMC method produced the smallest bias in item parameter estimates. Analyses of three real tests generally supported the findings from the simulation and indicated that the estimates for item difficulty and ability parameters were highly correlated across estimation methods.

PD SUM

PY 2013

VL 50

IS 2

BP 186

EP 203

ER

PT J

AU Briggs, DC

AF Briggs, Derek C.

TI Measuring Growth With Vertical Scales

SO JOURNAL OF EDUCATIONAL MEASUREMENT

AB A vertical score scale is needed to measure growth across multiple tests in terms of absolute changes in magnitude. Since the warrant for subsequent growth interpretations depends upon the assumption that the scale has interval properties, the validation of a vertical scale would seem to require methods for distinguishing interval scales from ordinal scales. In taking up this issue, two different perspectives on educational measurement are contrasted: a metaphorical perspective and a classical perspective. Although the metaphorical perspective is more predominant, at present it provides no objective methods whereby the properties of a vertical scale can be validated. In contrast, when taking a classical perspective, the axioms of additive conjoint measurement can be used to test the hypothesis that the latent variable underlying a vertical scale is quantitative (supporting ratio or interval properties) rather than merely qualitative (supporting ordinal or nominal properties). The application of such an approach is illustrated with both a hypothetical example and by drawing upon recent research that has been conducted on the Lexile scale for reading comprehension.

PD SUM

PY 2013

VL 50

IS 2

BP 204

EP 226

ER

PT J

AU Kahraman, N

AF Kahraman, Nilufer

TI Unidimensional Interpretations for Multidimensional Test Items

SO JOURNAL OF EDUCATIONAL MEASUREMENT

AB This article considers potential problems that can arise in estimating a unidimensional item response theory (IRT) model when some test items are multidimensional (i.e., show a complex factorial structure). More specifically, this study examines (1) the consequences of model misfit on IRT item parameter estimates due to unintended minor item-level multidimensionality, and (2) whether a Projection IRT model can provide a useful remedy. A real-data example is used to illustrate the problem and also is used as a base model for a simulation study. The results suggest that ignoring item-level multidimensionality might lead to inflated item discrimination parameter estimates when the proportion of multidimensional test items to unidimensional test items is as low as 1:5. The Projection IRT model appears to be a useful tool for updating unidimensional item parameter estimates of multidimensional test items for a purified unidimensional interpretation.

PD SUM

PY 2013

VL 50

IS 2

BP 227

EP 246

ER

PT J

AU Quickel, EJW

Demakis, GJ

AF Quickel, Emalee J. W.

Demakis, George J.

TI The Independent Living Scales in Civil Competency Evaluations: Initial Findings and Prediction of Competency Adjudication

SO LAW AND HUMAN BEHAVIOR

AB We address a gap in the literature on civil competency by examining characteristics of those who undergo civil competency evaluations and how well Managing Money and Health and Safety subscales of the Independent Living Scales (ILS) predict legal competency adjudications. We were also interested whether these subscales are more accurate in making such predictions than the Mini-Mental State Examination and Trail-Making Test, Parts A and B, well-known measures of neuropsychological functioning. Actual legal competency decisions were obtained from public court records on 71 individuals with either mental retardation/borderline intellectual functioning (MR/BIF) or psychiatric,

neurological, or combined psychiatric or neurological diagnoses. We found that those with neurological diagnoses performed significantly better on the Trail-Making Test, Part A, than the MR/BIF and combined neurological and psychiatric groups, and they demonstrated trends in the same direction for other measures. Both ILS subscales performed better than the cognitive measures, in terms of both hit rate and predictive value, in predicting ultimate judicial decision-making about competency. These findings are particularly relevant for clinicians who must decide what measures to include in an assessment battery in civil competency evaluations.

PD JUN

PY 2013

VL 37

IS 3

BP 155

EP 162

ER

PT J

AU Martire, KA

Kemp, RI

Watkins, I

Sayle, MA

Newell, BR

AF Martire, Kristy A.

Kemp, Richard I.

Watkins, Ian

Sayle, Malindi A.

Newell, Ben R.

TI The Expression and Interpretation of Uncertain Forensic Science Evidence: Verbal Equivalence, Evidence Strength, and the Weak Evidence Effect

SO LAW AND HUMAN BEHAVIOR

AB Standards published by the Association of Forensic Science Providers (2009, Standards for the formulation of evaluative forensic science expert opinion, Science & Justice, Vol. 49, pp. 161-164) encourage forensic scientists to express their conclusions in the form of a likelihood ratio (LR), in which the value of the evidence is conveyed verbally or numerically. In this article, we report two experiments (using undergraduates and Mechanical Turk recruits) designed to investigate how much decision makers change their beliefs when presented with evidence in the form of verbal or numeric LRs. In Experiment 1 (N = 494), participants read a summary of a larceny trial containing inculpatory expert testimony in which evidence strength (low, moderate, high) and presentation method (verbal, numerical) varied. In Experiment 2 (N = 411), participants read the same larceny trial, this time

including either exculpatory or inculpatory expert evidence that varied in strength (low, high) and presentation method (verbal, numerical). Both studies found a reasonable degree of correspondence in observed belief change resulting from verbal and numeric formats. However, belief change was considerably smaller than Bayesian calculations would predict. In addition, participants presented with evidence weakly supporting guilt tended to "invert" the evidence, thereby counterintuitively reducing their belief in the guilt of the accused. This "weak evidence effect" was most apparent in the verbal presentation conditions of both experiments, but only when the evidence was inculpatory. These findings raise questions about the interpretability of LRs by jurors and appear to support an expectancy-based account of the weak evidence effect.

PD JUN

PY 2013

VL 37

IS 3

BP 197

EP 207

ER

PT J

AU Scherr, KC

Madon, S

AF Scherr, Kyle C.

Madon, Stephanie

TI "Go Ahead and Sign": An Experimental Examination of Miranda Waivers and Comprehension

SO LAW AND HUMAN BEHAVIOR

AB This research examined whether the protections afforded by Miranda are compromised by two situational factors that may be present during the Miranda administration process. The factors examined were the police tactic of trivializing the importance of a waiver and the stress that accompanies an accusation of serious misconduct. All participants (N = 89) were accused of misconduct on an experimental task and were led to believe that they would have to discuss the incident with the professor in charge of the experiment. In addition, all participants were asked to sign a waiver of their right to have a student advocate present during that meeting, after which their comprehension of the waiver was assessed. To manipulate the police tactic of trivializing a waiver, participants were told that the waiver had important or trivial implications for their future outcomes. To manipulate stress, participants were told that their misconduct was either a serious or minor violation of the experiment. Results indicated that participants were more likely to sign the waiver and had worse comprehension of its content when it was described as trivial versus important. Participants'

comprehension of the waiver was also worse when their misconduct was described as a serious versus a minor violation of the experiment. These findings have implications for policy regarding the standardization of Miranda administration protocols as well as for future research aimed at understanding the influence of situational factors on Miranda waivers and comprehension.

PD JUN
PY 2013
VL 37
IS 3
BP 208
EP 218
ER

PT J
AU Vukovic, RK
Lesaux, NK
AF Vukovic, Rose K.
Lesaux, Nonie K.

TI The language of mathematics: Investigating the ways language counts for children's mathematical development

SO JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY

AB This longitudinal study examined how language ability relates to mathematical development in a linguistically and ethnically diverse sample of children from 6 to 9 years of age. Study participants were 75 native English speakers and 92 language minority learners followed from first to fourth grades. Autoregression in a structural equation modeling (SEM) framework was used to evaluate the relation between children's language ability and gains in different domains of mathematical cognition (i.e., arithmetic, data analysis/probability, algebra, and geometry). The results showed that language ability predicts gains in data analysis/probability and geometry, but not in arithmetic or algebra, after controlling for visual-spatial working memory, reading ability, and sex. The effect of language on gains in mathematical cognition did not differ between language minority learners and native English speakers. These findings suggest that language influences how children make meaning of mathematics but is not involved in complex arithmetical procedures whether presented with Arabic symbols as in arithmetic or with abstract symbols as in algebraic reasoning. The findings further indicate that early language experiences are important for later mathematical development regardless of language background, denoting the need for intensive and targeted language opportunities for language minority and native English learners to develop mathematical concepts and representations. (C) 2013 Published by Elsevier Inc.

PD JUN
PY 2013

VL 115
IS 2
BP 227
EP 244
ER

PT J

AU Pnevmatikos, D

Trikkaliotis, I

AF Pnevmatikos, Dimitris

Trikkaliotis, Ioannis

TI Intraindividual differences in executive functions during childhood: The role of emotions

SO JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY

AB Intraindividual differences in executive functions (EFs) have been rarely investigated. In this study, we addressed the question of whether the emotional fluctuations that schoolchildren experience in their classroom settings could generate substantial intraindividual differences in their EFs and, more specifically, in the fundamental unifying component of EFs, their inhibition function. We designed an experimental research with ecological validity within the school setting where schoolchildren of three age groups (8-, 10-, and 12-year-olds) were involved. We executed three experiments. In Experiment 1, using a between-participants design, we isolated a classroom episode that, compared with the other episodes, generated significant differences in inhibitory function in a consequent Go/NoGo task. This was an episode that induced frustration after the experience of anxiety due to the uncertainty. Experiment 2, using a within-participants design, confirmed both the induced emotions from the episode and the intraindividual variability in schoolchildren's inhibition accuracy in the consequent Go/NoGo task. Experiment 3, again using a within-participants design, examined whether the same episode could generate intraindividual differences in a more demanding inhibition task, namely the anti-saccade task. The experiment confirmed the previous evidence; the episode generated high variability that in some age groups accounted for more than 1.5 standard deviations from the interindividual variability between the schoolchildren of the same age. Results showed that, regardless of their sex and the developmental progression in their inhibition with age, the variability induced within participants from the experienced frustration was very high compared with the interindividual variability of the same age group. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 115

IS 2

BP 245
EP 261
ER

PT J

AU Kavsek, M

AF Kavsek, Michael

TI Rotary motion impairs attention to color change in 4-month-old infants

SO JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY

AB Continuous color changes of an array of elements appear to stop changing if the array undergoes a coherent motion. This silencing illusion was demonstrated for adults by Suchow and Alvarez (Current Biology, 2011, vol. 21, pp. 140-143). The current forced-choice preferential looking study examined 4-month-old infants' sensitivity to the silencing illusion. Two experimental conditions were conducted. In the dynamic condition, infants were tested with two rotating rings of circular different-colored dots. In one of these rings the dots continuously changed color, whereas in the other ring the dots did not change color. In the static condition, the global rotary motion was eliminated from the targets. Infants preferred looking at the color-changing target in the static condition but not in the dynamic condition; they attended to the color changes in the static condition but failed to detect them in the dynamic condition. This differential looking pattern is consistent with the hypothesis that the silencing illusion can be established during early infancy. A control group of adults also responded to the silencing phenomenon. This substantiates that the stimuli generate a robust illusory effect. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 115

IS 2

BP 262

EP 272

ER

PT J

AU Deak, GO

Toney, AJ

AF Deak, Gedeon O.

Toney, Alexis J.

TI Young children's fast mapping and generalization of words, facts, and pictograms

SO JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY

AB To test general and specific processes of symbol learning, 4- and 5-year-old children learned three kinds of abstract associates for novel objects: words, facts, and pictograms. To test fast mapping (i.e.,

one-trial learning) and subsequent learning, comprehension was tested after each of four exposures. Production was also tested, as was children's tendency to generalize learned items to new objects in the same taxon. To test for a bias toward mutually exclusive associations, children learned either one-to-one or many-to-many mappings. In Experiment 1, children learned words, facts (with or without incidental novel words), or pictograms. In Experiment 2, children learned words or pictograms. In both of these experiments, children learned words slower than facts and pictograms. Pictograms and facts were generalized more systematically than words, but only in Experiment 1. Children learned one-to-one mappings faster only in Experiment 2, when cognitive load was increased. In Experiment 3, 3- and 4-year-olds were taught facts (with novel words), words, and pictograms. Children learned facts faster than words; however, they remembered all items equally well a week later. The results suggest that word learning follows non-specialized memory and associative learning processes. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN
PY 2013
VL 115
IS 2
BP 273
EP 296
ER

PT J

AU Fischer, JP

AF Fischer, Jean-Paul

TI Digit reversal in children's writing: A simple theory and its empirical validation

SO JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY

AB This article presents a simple theory according to which the left-right reversal of single digits by 5- and 6-year-old children is mainly due to the application of an implicit right-writing or -orienting rule. A number of nontrivial predictions can be drawn from this theory. First, left-oriented digits (1, 2, 3, 7, and 9) will be reversed more frequently than the other asymmetrical digits (4, 5, and 6). Second, for some pairs of digits, the correct writing of the preceding digit will statistically predict the reversal of the current digit and vice versa. Third, writing hand will have little effect on the frequency of reversals, and the relative frequencies with which children reverse the asymmetrical digits will be similar regardless of children's preferred writing hand. Fourth, children who reverse the left-oriented digits the most are also those who reverse the other asymmetrical digits the least. An empirical study involving 367 5- and 6-year-olds confirmed these predictions. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN
PY 2013
VL 115
IS 2
BP 356
EP 370
ER

PT J
AU Oliver, G
AF Oliver, Graham
TI A Gifted Education
SO HARVARD EDUCATIONAL REVIEW
PD SUM
PY 2013
VL 83
IS 2
BP 295
EP 299
ER

PT J
AU Tian, X
Huber, DE
AF Tian, Xing
Huber, David E.
TI Playing "Duck Duck Goose" With Neurons: Change Detection Through
Connectivity Reduction
SO PSYCHOLOGICAL SCIENCE
AB Reduced connectivity between sending and receiving neurons (i.e.,
synaptic depression) may facilitate change detection by reducing
responses for recently viewed objects so new objects can be highlighted.
In the experiment reported here, we investigated high-level change
detection following semantic satiation, which is the loss of meaning
following repetition of a word. A computer simulation of a word-reading
neural network with synaptic depression identified key predictions of
connectivity reduction. A dynamic-causal-modeling analysis of
magnetoencephalography (MEG) responses collected during a
category-matching task identified connectivity reduction between a
cortical region related to orthography and a cortical region related to
semantics as the cause of the reduced MEG response to a repeated word.
As predicted, prior repetitions of a category-matching word presented
immediately after the repeated word enhanced semantic novelty, as
measured with the M400 component. These results demonstrate that a
combination of neural-network modeling and connectivity analyses can
reveal the manner in which connectivity fluctuations underlie cognitive

functions.

PD JUN

PY 2013

VL 24

IS 6

BP 819

EP 827

ER

PT J

AU Cummings, JN

Kiesler, S

Zadeh, RB

Balakrishnan, AD

AF Cummings, Jonathon N.

Kiesler, Sara

Zadeh, Reza Bosagh

Balakrishnan, Aruna D.

TI Group Heterogeneity Increases the Risks of Large Group Size: A
Longitudinal Study of Productivity in Research Groups

SO PSYCHOLOGICAL SCIENCE

AB Heterogeneous groups are valuable, but differences among members can weaken group identification. Weak group identification may be especially problematic in larger groups, which, in contrast with smaller groups, require more attention to motivating members and coordinating their tasks. We hypothesized that as groups increase in size, productivity would decrease with greater heterogeneity. We studied the longitudinal productivity of 549 research groups varying in disciplinary heterogeneity, institutional heterogeneity, and size. We examined their publication and citation productivity before their projects started and 5 to 9 years later. Larger groups were more productive than smaller groups, but their marginal productivity declined as their heterogeneity increased, either because their members belonged to more disciplines or to more institutions. These results provide evidence that group heterogeneity moderates the effects of group size, and they suggest that desirable diversity in groups may be better leveraged in smaller, more cohesive units.

PD JUN

PY 2013

VL 24

IS 6

BP 880

EP 890

ER

PT J

AU Brady, TF

Konkle, T

Gill, J

Oliva, A

Alvarez, GA

AF Brady, Timothy F.

Konkle, Talia

Gill, Jonathan

Oliva, Aude

Alvarez, George A.

TI Visual Long-Term Memory Has the Same Limit on Fidelity as Visual Working
Memory

SO PSYCHOLOGICAL SCIENCE

AB Visual long-term memory can store thousands of objects with surprising
visual detail, but just how detailed are these representations, and how
can one quantify this fidelity? Using the property of color as a case
study, we estimated the precision of visual information in long-term
memory, and compared this with the precision of the same information in
working memory. Observers were shown real-world objects in random colors
and were asked to recall the colors after a delay. We quantified two
parameters of performance: the variability of internal representations
of color (fidelity) and the probability of forgetting an object's color
altogether. Surprisingly, the fidelity of color information in long-term
memory was comparable to the asymptotic precision of working memory.
These results suggest that long-term memory and working memory may be
constrained by a common limit, such as a bound on the fidelity required
to retrieve a memory representation.

PD JUN

PY 2013

VL 24

IS 6

BP 981

EP 990

ER

PT J

AU Neuman, SB

Kaefer, T

AF Neuman, Susan B.

Kaefer, Tanya

TI ENHANCING THE INTENSITY OF VOCABULARY INSTRUCTION FOR
PRESCHOOLERS AT

RISK

SO ELEMENTARY SCHOOL JOURNAL

AB This study was designed to experimentally examine how supplemental
vocabulary instruction provided in either whole-group or small-group

settings influences low-income preschoolers' word knowledge and conceptual development. Using a within-subject design, 108 preschool children from 12 Head Start classrooms participated in an 8-week intervention, which included four topics of targeted vocabulary instruction counterbalanced in either a whole-group or small-group configuration. Pre- and posttest measures examined children's outcomes in word learning and in conceptual and categorical knowledge. Our results indicated that group size did not appear to be a powerful mechanism for intensifying instruction. Although children gained significantly in word knowledge, concepts, and categories, they did so regardless of whether they were in small or whole groups. Implications for these findings, as well as limitations of the research and directions for future research, are discussed.

PD JUN

PY 2013

VL 113

IS 4

BP 589

EP 608

ER

PT J

AU Hong, E

Peng, Y

O'Neil, HF

Wu, JB

AF Hong, Eunsook

Peng, Yun

O'Neil, Harold F., Jr.

Wu, Junbin

TI Domain-General and Domain-Specific Creative-Thinking Tests: Effects of Gender and Item Content on Test Performance

SO JOURNAL OF CREATIVE BEHAVIOR

AB The study examined the effects of gender and item content of domain-general and domain-specific creative-thinking tests on four subscale scores of creative-thinking (fluency, flexibility, originality, and elaboration). Chinese tenth-grade students (234 males and 244 females) participated in the study. Domain-general creative thinking was measured by using two domain-independent items: box and newspaper. Domain-specific creative thinking was measured in the domain of history by two history-specific items: school uniform and health food that were part of lessons in modern Chinese history. Domain-general creative-thinking scores were not different across gender in any of the four subscales. In domain-specific creative thinking, female students produced more responses (fluency) and more categories of ideas (flexibility), and more detailed answers (elaboration) on both items

than did males. Gender difference was not found in originality. Item effects were significant in both general and specific creative-thinking scores, with higher fluency, flexibility, and elaboration for the newspaper than the box item, and higher fluency, flexibility, originality, and elaboration for the school uniform than the health food item. The findings on both gender and item effects support the contention that personal interest and life experience influence the generation of creative solutions. The finding that gender did not differ in domain-general creative-thinking was expected, as the two general items (box and newspaper) are experienced similarly by both genders. As most of the creative-thinking tests are influenced by individuals' experience beyond creative-thinking ability, judicial evaluation and use of creative-thinking scores are underscored.

PD JUN

PY 2013

VL 47

IS 2

BP 89

EP 105

ER

PT J

AU Repp, BH

Su, YH

AF Repp, Bruno H.

Su, Yi-Huang

TI Sensorimotor synchronization: A review of recent research (2006-2012)

SO PSYCHONOMIC BULLETIN & REVIEW

AB Sensorimotor synchronization (SMS) is the coordination of rhythmic movement with an external rhythm, ranging from finger tapping in time with a metronome to musical ensemble performance. An earlier review (Repp, 2005) covered tapping studies; two additional reviews (Repp, 2006a, b) focused on music performance and on rate limits of SMS, respectively. The present article supplements and extends these earlier reviews by surveying more recent research in what appears to be a burgeoning field. The article comprises four parts, dealing with (1) conventional tapping studies, (2) other forms of moving in synchrony with external rhythms (including dance and nonhuman animals' synchronization abilities), (3) interpersonal synchronization (including musical ensemble performance), and (4) the neuroscience of SMS. It is evident that much new knowledge about SMS has been acquired in the last 7 years.

PD JUN

PY 2013

VL 20

IS 3

BP 403
EP 452
ER

PT J

AU Marstaller, L
Burianova, H
AF Marstaller, Lars
Burianova, Hana

TI Individual differences in the gesture effect on working memory
SO PSYCHONOMIC BULLETIN & REVIEW

AB Co-speech gestures have been shown to interact with working memory (WM). However, no study has investigated whether there are individual differences in the effect of gestures on WM. Combining a novel gesture/no-gesture task and an operation span task, we examined the differences in WM accuracy between individuals who gestured and individuals who did not gesture in relation to their WM capacity. Our results showed individual differences in the gesture effect on WM. Specifically, only individuals with low WM capacity showed a reduced WM accuracy when they did not gesture. Individuals with low WM capacity who did gesture, as well as high-capacity individuals (irrespective of whether they gestured or not), did not show the effect. Our findings show that the interaction between co-speech gestures and WM is affected by an individual's WM load.

PD JUN
PY 2013
VL 20
IS 3
BP 496
EP 500
ER

PT J

AU Arnold, KM
McDermott, KB
AF Arnold, Kathleen M.
McDermott, Kathleen B.

TI Free recall enhances subsequent learning
SO PSYCHONOMIC BULLETIN & REVIEW

AB Testing, or retrieval practice, has become a central topic in memory research. One potentially important effect of retrieval practice has received little attention, however: It may enhance, or potentiate, subsequent learning. We introduce a paradigm that can measure the indirect, potentiating effect of free recall tests on subsequent learning, and then test a hypothesis for why tests may have this potentiating effect. In two experiments, the benefit of a restudy trial

was enhanced when prior free recall tests had been taken. The results from a third, correlational study suggested that this effect might be mediated by the effect of testing on organization. Not only do encoding conditions affect later retrievability, but also retrieval attempts affect subsequent encoding effectiveness.

PD JUN
PY 2013
VL 20
IS 3
BP 507
EP 513
ER

PT J
AU Feng, S
D'Mello, S
Graesser, AC
AF Feng, Shi
D'Mello, Sidney
Graesser, Arthur C.

TI Mind wandering while reading easy and difficult texts
SO PSYCHONOMIC BULLETIN & REVIEW

AB Mind wandering is a phenomenon in which attention drifts away from the primary task to task-unrelated thoughts. Previous studies have used self-report methods to measure the frequency of mind wandering and its effects on task performance. Many of these studies have investigated mind wandering in simple perceptual and memory tasks, such as recognition memory, sustained attention, and choice reaction time tasks. Manipulations of task difficulty have revealed that mind wandering occurs more frequently in easy than in difficult conditions, but that it has a greater negative impact on performance in the difficult conditions. The goal of this study was to examine the relation between mind wandering and task difficulty in a high-level cognitive task, namely reading comprehension of standardized texts. We hypothesized that reading comprehension may yield a different relation between mind wandering and task difficulty than has been observed previously. Participants read easy or difficult versions of eight passages and then answered comprehension questions after reading each of the passages. Mind wandering was reported using the probe-caught method from several previous studies. In contrast to the previous results, but consistent with our hypothesis, mind wandering occurred more frequently when participants read difficult rather than easy texts. However, mind wandering had a more negative influence on comprehension for the difficult texts, which is consistent with the previous data. The results are interpreted from the perspectives of the executive-resources and control-failure theories of mind wandering, as well as with regard to

situation models of text comprehension.

PD JUN

PY 2013

VL 20

IS 3

BP 586

EP 592

ER

PT J

AU Wolfe, CR

Fisher, CR

AF Wolfe, Christopher R.

Fisher, Christopher R.

TI Individual differences in base rate neglect: A fuzzy processing preference index

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Little is known about individual differences in integrating numeric base-rates and qualitative text in making probability judgments.

Fuzzy-Trace Theory predicts a preference for fuzzy processing. We conducted six studies to develop the FPPI, a reliable and valid instrument assessing individual differences in this fuzzy processing preference. It consists of 19 probability estimation items plus 4 "M-scale" items that distinguish simple pattern matching from "base rate respect." Cronbach's Alpha was consistently above 0.90. Validity is suggested by significant correlations between FPPI scores and three other measures: "Rule Based" Process Dissociation Procedure scores; the number of conjunction fallacies in joint probability estimation; and logic index scores on syllogistic reasoning. Replicating norms collected in a university study with a web-based study produced negligible differences in FPPI scores, indicating robustness. The predicted relationships between individual differences in base rate respect and both conjunction fallacies and syllogistic reasoning were partially replicated in two web-based studies. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 25

BP 1

EP 11

ER

PT J

AU Tucker-Drob, EM

AF Tucker-Drob, Elliot M.

TI How many pathways underlie socioeconomic differences in the development

of cognition and achievement?

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Children whose parents are more highly educated enjoy greater age-linked gains in cognitive abilities and academic achievement. Different researchers have typically focused on different outcomes, and the extent to which parental education relates to multiple child outcomes via a single developmental pathway has received little empirical attention. This issue was examined by applying common factor structural equation models to a large (N = 4810) nationally representative sample of kindergarten through 12th grade children, who were measured on 6 distinct cognitive abilities and 5 distinct forms of knowledge and academic achievement. Results indicated that a single pathway accounted for the relations between parental education and age differences in children's cognitive abilities. However, additional unique pathways were necessary to account for the relations between parental education and age differences in academic knowledge and mathematics. These results suggest that while socioeconomic differences are largely manifested in global aspects of cognitive development, they have incremental relations with some forms of academic achievement (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 25

BP 12

EP 20

ER

PT J

AU Belenky, DM

Nokes-Malach, TJ

AF Belenky, Daniel M.

Nokes-Malach, Timothy J.

TI Mastery-approach goals and knowledge transfer: An investigation into the effects of task structure and framing instructions

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Although prior work has shown that mastery-approach achievement goals are related to positive learning behaviors (e.g., more interest, perseverance, and self-regulation), less is known about how these goals interact with instruction to influence knowledge transfer. To address these issues we conducted a laboratory experiment investigating how two aspects of the instructional environment, the task structure (tell-and-practice direct instruction vs. minimally-guided open-ended invention activities) and the task framing (mastery vs. performance), affected students' task-based mastery goal adoption and transfer when learning statistics. The results showed that structure was more effective than framing in manipulating students' mastery-approach goal

adoption. In addition, students' existing mastery-approach orientations for mathematics strongly predicted knowledge transfer for all of the instructional conditions except for students given invention activities with a performance framing. For these students, the relationship between mastery-approach orientation and transfer was not observed, indicating that this condition makes transfer more likely for those lower in mastery-approach orientation. The results are discussed in terms of the implications for theories of achievement goal motivation, knowledge transfer, and instruction. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 25

BP 21

EP 34

ER

PT J

AU Strunk, KK

Cho, YJ

Steele, MR

Bridges, SL

AF Strunk, Kamden K.

Cho, YoonJung

Steele, Misty R.

Bridges, Stacey L.

TI Development and validation of a 2 x 2 model of time-related academic behavior: Procrastination and timely engagement

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Procrastination is an educational concern for classroom instructors because of its negative psychological and academic impacts on students. However, the traditional view of procrastination as a unidimensional construct is insufficient in two regards. First, the construct needs to be viewed more broadly as time-related academic behavior, encompassing both procrastination and timely engagement. Secondly, the underlying motivation of these behaviors needs to be considered. Therefore, we developed and validated a 2 x 2 model of time-related academic behavior. The results of a confirmatory factor analysis supported a four-factor structure, and correlation with a unidimensional measure of procrastination also supported this model. Furthermore, the 2 x 2 model demonstrated significantly better fit to the data than potentially competing models. Structural equation modeling with achievement goals revealed that the 2 x 2 model unveiled relationships previously obscured in the traditional model, including that procrastination appeared to be used as a performance-enhancing strategy, while timely engagement was used to enhance mastery. The theoretical and practical implications of these new relationships are discussed. (C) 2013 Elsevier Inc. All rights

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PD JUN
PY 2013
VL 25
BP 35
EP 44
ER

PT J
AU Toll, SWM
Van Luit, JEH
AF Toll, Sylke W. M.
Van Luit, Johannes E. H.

TI The development of early numeracy ability in kindergartners with limited working memory skills

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Research has proven limited working memory skills to be a high risk factor for educational underachievement in mathematics across the primary school years. Less is known, however, about the performance of children with limited working memory skills in early numeracy tasks. The main purpose of the two studies reported in this article is to explore the difficulties these children experience in performing early numeracy tasks. In both studies, children with very low working memory skills were identified from a large sample ($N = 939$), in order to examine in which early numeracy domains they lag behind (Study 2) or develop more slowly (Study 1) than their typically developing peers. Results show weaknesses in almost all domains of early numeracy (Study 1) but, against expectations, no pattern in early numeracy could be seen that distinguishes children with problems in verbal working memory from children with problems in visual working memory (Study 2). (C) 2013 Elsevier Inc. All rights reserved.

PD JUN
PY 2013
VL 25
BP 45
EP 54
ER

PT J
AU Komarraju, M
Nadler, D
AF Komarraju, Meera
Nadler, Dustin

TI Self-efficacy and academic achievement: Why do implicit beliefs, goals, and effort regulation matter?

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB We examined motivational orientations, cognitive-metacognitive strategies, and resource management in predicting academic achievement. Undergraduates (407) completed the Motivated Strategies Learning Questionnaire, Implicit Theories of Intelligence Scale, Achievement Goal Inventory, and self-reported grade point average. A MANCOVA (controlling for sex and age) indicated that low self-efficacy students tended to believe intelligence is innate and unchangeable and high self-efficacy students pursued mastery goals involving challenge and gaining new knowledge as well as performance goals involving good grades and outperforming others. Further, hierarchical multiple regression analysis indicated that self-efficacy, effort regulation, and help-seeking predicted 18% of the variance in GPA. Interestingly, effort regulation partially mediated the relationship between self-efficacy and GPA. Overall, self-efficacious students are able to achieve academically because they monitor and self-regulate their impulses and persist in the face of difficulties. We discuss implications of these findings for educators seeking to strengthen both self-efficacy and effort regulation towards increasing academic achievement. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 25

BP 67

EP 72

ER

PT J

AU Putwain, DW

Sander, P

Larkin, D

AF Putwain, David W.

Sander, Paul

Larkin, Derek

TI Using the 2 x 2 framework of achievement goals to predict achievement emotions and academic performance

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Previous work has established how achievement emotions are related to the trichotomous model of achievement goals, and how they predict academic performance. In our study we examine relations using an additional, mastery-avoidance goal, and whether outcome-focused emotions are predicted by mastery as well as performance goals. Results showed that outcome-focused emotions were predicted by mastery approach/avoidance, and performance-avoidance goals, whereas activity-focused emotions were predicted by mastery approach/avoidance goals only. Two achievement emotions, pride and hope, mediated relations between achievement goals and academic performance. These findings show

that it is important to consider the hierarchical nature of achievement goals, that is, the distinction between goals and reasons. If students use grades as a basis on which to judge their task and intrapersonal competence, then mastery goals can predict outcome-focused emotions. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN
PY 2013
VL 25
BP 80
EP 84
ER

PT J
AU Weber, HS
Lu, LP
Shi, JN
Spinath, FM
AF Weber, Heike S.
Lu, Liping
Shi, Jiannong
Spinath, Frank M.

TI The roles of cognitive and motivational predictors in explaining school achievement in elementary school

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB The present study investigated the roles of cognitive (working memory, intelligence) and motivational variables (self-perceived ability, intrinsic value) in explaining school achievement. The sample consisted of $N = 320$ German elementary school children in the fourth grade. Working memory and intelligence were assessed in the classroom. Questionnaires including the motivational items were answered at home. Teachers provided midterm and endterm grades for the domains of German and Math. Using structural equation modeling, our main results indicated that across domains, both cognitive and motivational predictors explained substantial amounts of specific variance in school grades. The findings are, however, to some degree domain-specific in that cognitive variables were stronger predictors of Math (COG: $\beta = .59$; MOT: $\beta = .41$), whereas for German, motivational influences turned out to be better predictors (COG: $\beta = .34$; MOT: $\beta = .67$). Together, cognitive ability (including both WM and intelligence) and motivation (including self-perceived ability and intrinsic value) explained 75% and 71% of the variance in children's German and Math grades, respectively. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN
PY 2013
VL 25
BP 85

EP 92
ER

PT J
AU Storek, J
Furnham, A
AF Storek, Josephine
Furnham, Adrian

TI Gender, 'g', and fixed versus growth intelligence mindsets as predictors of self-estimated Domain Masculine Intelligence (DMIQ)

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Over 120 participants completed three timed intelligence tests, a self-estimated Domain Masculine (DMIQ) Intelligence scale, and a mindset "beliefs about intelligence" measure (Dweck, 2012) to examine correlates of the Hubris-Humility Effect (HHE) which shows males believe they are more intelligent than females. As predicted males gave higher DMIQ estimates than females. Males also scored higher than females on two of the three intelligence tests. Mindset beliefs (entity vs incremental theories) were not significantly related to gender or DMIQ scores. DMIQ estimates were only weakly related to two of the three intelligence tests. Gender and general intelligence test scores (Wonderlic Personnel Test, Inc., 1992) were the best predictors of DMIQ. Limitations are discussed. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN
PY 2013
VL 25
BP 93
EP 98
ER

PT J
AU Mammarella, IC
Borella, E
Pastore, M
Pazzaglia, F
AF Mammarella, Irene C.
Borella, Erika
Pastore, Massimiliano
Pazzaglia, Francesca

TI The structure of visuospatial memory in adulthood

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB The present study aimed to investigate the structure of visuospatial memory in adulthood. Adults 40-89 years of age (n=160) performed simple storage and complex visuospatial span tasks. Simple storage tasks were distinguished into three presentation formats: (i) visual, which involved maintaining shapes and textures; (ii) spatial-sequential, which

involved maintaining sequentially-presented locations; and (iii) spatial-simultaneous, which involved maintaining patterns of locations. Confirmatory factor analyses showed that, among the domain-differentiated models, the one considering visuospatial memory in its simple visual, spatial-sequential and spatial-simultaneous components and complex visuospatial memory yielded a good fit to our data. Structural equation modeling also showed that age had a direct effect on visual, spatial-sequential and spatial-simultaneous memory, and on complex visuospatial memory. Altogether these results suggest the importance of considering both the type of processing involved (in simple storage vs. complex visuospatial tasks) and the presentation format of the stimuli in the visuospatial domain. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 25

BP 99

EP 110

ER

PT J

AU Neuenschwander, R

Cimeli, P

Rothlisberger, M

Roebbers, CM

AF Neuenschwander, Regula

Cimeli, Patrizia

Roethlisberger, Marianne

Roebbers, Claudia M.

TI Personality factors in elementary school children: Contributions to academic performance over and above executive functions?

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Unique contributions of Big Five personality factors to academic performance in young elementary school children were explored.

Extraversion and Openness (labeled "Culture" in our study) uniquely contributed to academic performance, over and above the contribution of executive functions in first and second grade children (N=446). Well established associations between Conscientiousness and academic performance, however, could only be replicated with regard to zero-order correlations. Executive functions (inhibition, updating, and shifting), for their part, proved to be powerful predictors of academic performance. Results were to some extent dependent on the criterion with which academic performance was measured: Both personality factors had stronger effects on grades than on standardized achievement tests, whereas the opposite was true for executive functions. Finally, analyses on gender differences revealed that Extraversion and Openness/Culture

played a more dominant role in girls than in boys, but only regarding grades. (C) 2012 Elsevier Inc. All rights reserved.

PD JUN
PY 2013
VL 25
BP 118
EP 125
ER

PT J

AU Libertus, ME

Feigenson, L

Halberda, J

AF Libertus, Melissa E.

Feigenson, Lisa

Halberda, Justin

TI Is approximate number precision a stable predictor of math ability?

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Previous research shows that children's ability to estimate numbers of items using their Approximate Number System (ANS) predicts later math ability. To more closely examine the predictive role of early ANS acuity on later abilities, we assessed the ANS acuity, math ability, and expressive vocabulary of preschoolers twice, six months apart. We also administered attention and memory span tasks to ask whether the previously reported association between ANS acuity and math ability is ANS-specific or attributable to domain-general cognitive skills. We found that early ANS acuity predicted math ability six months later, even when controlling for individual differences in age, expressive vocabulary, and math ability at the initial testing. In addition, ANS acuity was a unique concurrent predictor of math ability above and beyond expressive vocabulary, attention, and memory span. These findings of a predictive relationship between early ANS acuity and later math ability add to the growing evidence for the importance of early numerical estimation skills. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 25

BP 126

EP 133

ER

PT J

AU Wigent, CA

AF Wigent, Catherine A.

TI High school readers: A profile of above average readers and readers with learning disabilities reading expository text

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB This study examined above average high school readers and high school readers with learning disabilities in order to better understand the impact of twelve years of formal education on reading skills and strategy use while reading expository text. This study examined reading strategies related to knowledge construction, monitoring, and evaluating using verbal protocol analysis. Twenty-five eleventh and twelfth-grade students participated in this study, which included thirteen students with learning disabilities and twelve students with above average reading skills. The findings suggest that above average readers and students with learning disabilities share some characteristics. Both groups of students used rereading and paraphrasing as their primary mode of knowledge construction and demonstrated similar patterns in their strategy use. However, the above average readers used the strategies more effectively. The data suggest that students with learning disabilities may benefit from continued instruction at the secondary level in effective strategy use. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN
PY 2013
VL 25
BP 134
EP 140
ER

PT J

AU Decker, SL
Roberts, AM
Englund, JA
AF Decker, Scott L.
Roberts, Alycia M.
Englund, Julia A.

TI Cognitive predictors of rapid picture naming

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB Deficits in rapid automatized naming (RAN) have been found to be a sensitive cognitive marker for children with dyslexia. However, there is a lack of consensus regarding the construct validity and theoretical neuro-cognitive processes involved in RAN. Additionally, most studies investigating RAN include a narrow range of cognitive measures. The current study examined the cognitive correlates of RAN with a comprehensive battery of cognitive measures representing the entire Cattell-Horn-Carroll model of cognitive ability. Cognitive correlates of RAN were investigated for 1307 children across a range of developmental ages (5-12 years). Cognitive predictors of RAN differed by developmental age, which may partially explain inconsistencies in previous research studies. Despite developmental variation, lexical access tasks were

related to RAN performance across all developmental ages. Results from this study suggest RAN performance likely consists of multiple cognitive processes, both those associated with lexical access and others that depend on developmental age. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 25

BP 141

EP 149

ER

PT J

AU Marschark, M

Morrison, C

Lukomski, J

Borgna, G

Convertino, C

AF Marschark, Marc

Morrison, Carolyn

Lukomski, Jennifer

Borgna, Georgianna

Convertino, Carol

TI Are deaf students visual learners?

SO LEARNING AND INDIVIDUAL DIFFERENCES

AB It is frequently assumed that by virtue of their hearing losses, deaf students are visual learners. Deaf individuals have some visual-spatial advantages relative to hearing individuals, but most have been linked to use of sign language rather than auditory deprivation. How such cognitive differences might affect academic performance has been investigated only rarely. This study examined relations among deaf college students' language and visual-spatial abilities, mathematics problem solving, and hearing thresholds. Results extended some previous findings and clarified others. Contrary to what might be expected, hearing students exhibited visual-spatial skills equal to or better than deaf students. Scores on a Spatial Relations task were associated with better mathematics problem solving. Relations among the several variables, however, suggested that deaf students are no more likely to be visual learners than hearing students and that their visual-spatial skill may be related more to their hearing losses than to their sign language skills. (C) 2013 Elsevier Inc. All rights reserved.

PD JUN

PY 2013

VL 25

BP 156

EP 162

ER

PT J

AU Patry, MW

Penrod, SD

AF Patry, Marc W.

Penrod, Steven D.

TI Death Penalty Decisions: Instruction Comprehension, Attitudes, and Decision Mediators

SO JOURNAL OF FORENSIC PSYCHOLOGY PRACTICE

AB This research tested jury comprehension of death penalty instructions and the use of evidence in capital punishment decision making. Two studies are presented. The first study (N = 245 undergraduates) was based on paper-and-pencil methods, and the second study (N = 735 jury-eligible participants) involved videotaped stimuli and deliberating mock jurors. Manipulations included instructions and several different variations in the evidence. Findings support previous research showing low comprehension of capital penalty instructions. Higher instruction comprehension was associated with higher likelihood of issuing life sentence decisions. The importance of instruction comprehension is emphasized in a social cognitive model of jury decision making at the sentencing phase of capital cases.

PD MAY

PY 2013

VL 13

IS 3

BP 204

EP 244

ER

PT J

AU Paradis, CM

Solomon, LZ

Owen, E

Brooker, M

AF Paradis, Cheryl M.

Solomon, Linda Z.

Owen, Elizabeth

Brooker, Monica

TI Detection of Cognitive Malingering or Suboptimal Effort in Defendants Undergoing Competency to Stand Trial Evaluations

SO JOURNAL OF FORENSIC PSYCHOLOGY PRACTICE

AB The present study evaluated the usefulness of two popular tests of cognitive malingering in a real-life forensic setting. Only 25 of 166 defendants referred for competency to stand trial evaluations claimed to have memory problems. Compared with the rest of the defendants, these individuals had a significantly higher incidence of affective disorders

and lower incidence of psychotic disorders. Almost half failed both the Rey 15-Item Test (RFT) and the Test of Memory Malingering (TOMM), and 64% failed one or both. Seven of the eight suspected malingerers diagnosed with psychotic disorders failed both the RFT and TOMM. The incidence of psychotic disorders was significantly higher in those who failed the RFT than those who passed and somewhat higher in those who failed the TOMM than those who passed. The possibility that some defendants scored below the recommended cutoff scores because of intellectual limitations or concentration problems stemming from their psychotic illness is discussed.

PD MAY

PY 2013

VL 13

IS 3

BP 245

EP 265

ER

PT J

AU Enders, CK

Fairchild, AJ

MacKinnon, DP

AF Enders, Craig K.

Fairchild, Amanda J.

MacKinnon, David P.

TI A Bayesian Approach for Estimating Mediation Effects With Missing Data
SO MULTIVARIATE BEHAVIORAL RESEARCH

AB Methodologists have developed mediation analysis techniques for a broad range of substantive applications, yet methods for estimating mediating mechanisms with missing data have been understudied. This study outlined a general Bayesian missing data handling approach that can accommodate mediation analyses with any number of manifest variables. Computer simulation studies showed that the Bayesian approach produced frequentist coverage rates and power estimates that were comparable to those of maximum likelihood with the bias-corrected bootstrap. We share an SAS macro that implements Bayesian estimation and use 2 data analysis examples to demonstrate its use.

PD MAY

PY 2013

VL 48

IS 3

BP 340

EP 369

ER

PT J

AU Kohli, N
Harring, JR
AF Kohli, Nidhi
Harring, Jeffrey R.

TI Modeling Growth in Latent Variables Using a Piecewise Function
SO MULTIVARIATE BEHAVIORAL RESEARCH

AB Latent growth curve models with piecewise functions for continuous repeated measures data have become increasingly popular and versatile tools for investigating individual behavior that exhibits distinct phases of development in observed variables. As an extension of this framework, this research study considers a piecewise function for describing segmented change of a latent construct over time where the latent construct is itself measured by multiple indicators gathered at each measurement occasion. The time of transition from one phase to another is not known a priori and thus is a parameter to be estimated. Utility of the model is highlighted in 2 ways. First, a small Monte Carlo simulation is executed to show the ability of the model to recover true (known) growth parameters, including the location of the point of transition (or knot), under different manipulated conditions. Second, an empirical example using longitudinal reading data is fitted via maximum likelihood and results discussed. Mplus (Version 6.1) code is provided in Appendix C to aid in making this class of models accessible to practitioners.

PD MAY
PY 2013
VL 48
IS 3
BP 370
EP 397
ER

PT J
AU Wang, WC
Qiu, XL
AF Wang, Wen-Chung
Qiu, Xue-Lan

TI A Multidimensional and Multilevel Extension of a Random-Effect Approach to Subjective Judgment in Rating Scales

SO MULTIVARIATE BEHAVIORAL RESEARCH

AB In responding to rating scale items, respondents may hold different perspectives on the given categories. The random-effect rating scale model (RERSM), developed to account for variations in the category thresholds across respondents, is unidimensional and unilevel. It becomes statistically inefficient when multiple unidimensional tests have to be analyzed and inapplicable when data have a multilevel structure (e.g., respondents nested within organizations, students

nested within schools). To resolve these problems, this study develops a multidimensional and multilevel version of the RERSM. The parameters can be estimated with existing computer software. Thus, there is no need to develop estimation procedures or corresponding computer programs. Simulation studies were conducted to evaluate the parameter recovery of the multidimensional RERSM, the multilevel RERSM, and the multidimensional and multilevel RERSM using WinBUGS. The results showed that the parameter recovery was generally satisfactory. An empirical example of the application of the multidimensional and multilevel RERSM to 2006 Program for International Student Assessment inventories about attitudes toward learning sciences is provided.

PD MAY
PY 2013
VL 48
IS 3
BP 398
EP 427
ER

PT J

AU Brock, AC

AF Brock, Adrian C.

TI Introduction to the Special Issue on the History of Psychology in Canada

SO CANADIAN PSYCHOLOGY-PSYCHOLOGIE CANADIENNE

AB This article begins by pointing out that history and theory of psychology is much stronger in Canada than it is elsewhere. However, the history of psychology in Canada itself tends to be neglected. This situation is linked to the dominance of American psychology and the movement to establish a distinctively Canadian psychology that differs from psychology in the United States. It is argued that this movement can help to encourage more interest in the history of psychology in Canada and vice versa. It is also suggested that addressing the neglect of the history of psychology in Canada will lead to more internationalization, not less.

PD MAY
PY 2013
VL 54
IS 2
SI SI
BP 87
EP 93
ER

PT J

AU Haran, U

Ritov, I

Mellers, BA
AF Haran, Uriel
Ritov, Ilana
Mellers, Barbara A.

TI The role of actively open-minded thinking in information acquisition, accuracy, and calibration

SO JUDGMENT AND DECISION MAKING

AB Errors in estimating and forecasting often result from the failure to collect and consider enough relevant information. We examine whether attributes associated with persistence in information acquisition can predict performance in an estimation task. We focus on actively open-minded thinking (AOT), need for cognition, grit, and the tendency to maximize or satisfice when making decisions. In three studies, participants made estimates and predictions of uncertain quantities, with varying levels of control over the amount of information they could collect before estimating. Only AOT predicted performance. This relationship was mediated by information acquisition: AOT predicted the tendency to collect information, and information acquisition predicted performance. To the extent that available information is predictive of future outcomes, actively open-minded thinkers are more likely than others to make accurate forecasts.

PD MAY

PY 2013

VL 8

IS 3

BP 188

EP 201

ER

PT J

AU Hardisty, DJ

Thompson, KF

Krantz, DH

Weber, EU

AF Hardisty, David J.

Thompson, Katherine F.

Krantz, David H.

Weber, Elke U.

TI How to measure time preferences: An experimental comparison of three methods

SO JUDGMENT AND DECISION MAKING

AB In two studies, time preferences for financial gains and losses at delays of up to 50 years were elicited using three different methods: matching, fixed-sequence choice titration, and a dynamic "staircase" choice method. Matching is found to create fewer demand characteristics and to produce better fits with the hyperbolic model of discounting. The

choice-based measures are shown to better predict real-world outcomes such as smoking and payment of credit card debt. No consistent advantages are found for the dynamic staircase method over fixed-sequence titration.

PD MAY

PY 2013

VL 8

IS 3

BP 236

EP 249

ER

PT J

AU Rinne, LF

Mazzocco, MMM

AF Rinne, Luke F.

Mazzocco, Michele M. M.

TI Inferring uncertainty from interval estimates: Effects of alpha level and numeracy

SO JUDGMENT AND DECISION MAKING

AB Interval estimates are commonly used to descriptively communicate the degree of uncertainty in numerical values. Conventionally, low alpha levels (e. g., .05) ensure a high probability of capturing the target value between interval endpoints. Here, we test whether alpha levels and individual differences in numeracy influence distributional inferences. In the reported experiment, participants received prediction intervals for fictitious towns' annual rainfall totals (assuming approximately normal distributions). Then, participants estimated probabilities that future totals would be captured within varying margins about the mean, indicating the approximate shapes of their inferred probability distributions. Results showed that low alpha levels (vs. moderate levels; e. g., .25) more frequently led to inferences of over-dispersed approximately normal distributions or approximately uniform distributions, reducing estimate accuracy. Highly numerate participants made more accurate estimates overall, but were more prone to inferring approximately uniform distributions. These findings have important implications for presenting interval estimates to various audiences.

PD MAY

PY 2013

VL 8

IS 3

BP 330

EP 344

ER

PT J

AU Juanchich, M
Teigen, KH
Gourdon, A
AF Juanchich, Marie
Teigen, Karl Halvor
Gourdon, Amelie

TI Top scores are possible, bottom scores are certain (and middle scores are not worth mentioning): A pragmatic view of verbal probabilities

SO JUDGMENT AND DECISION MAKING

AB In most previous studies of verbal probabilities, participants are asked to translate expressions such as possible and not certain into numeric probability values. This probabilistic translation approach can be contrasted with a novel which-outcome (WO) approach that focuses on the outcomes that people naturally associate with probability terms. The WO approach has revealed that, when given bell-shaped distributions of quantitative outcomes, people tend to associate certainty with minimum (unlikely) outcome magnitudes and possibility with (unlikely) maximal ones. The purpose of the present paper is to test the factors that foster these effects and the conditions in which they apply. Experiment 1 showed that the association of probability term and outcome was related to the association of scalar modifiers (i.e., it is certain that the battery will last at least..., it is possible that the battery will last up to...). Further, we tested whether this pattern was dependent on the frequency (e. g., increasing vs. decreasing distribution) or the nature of the outcomes presented (i.e., categorical vs. continuous). Results showed that despite being slightly affected by the shape of the distribution, participants continue to prefer to associate possible with maximum outcomes and certain with minimum outcomes. The final experiment provided a boundary condition to the effect, showing that it applies to verbal but not numerical probabilities.

PD MAY

PY 2013

VL 8

IS 3

BP 345

EP 364

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EF