

CASP 2023

SLD Identification: Myths, Misconceptions, and Inconvenient Truths

Select Abstracts:

Examination of differential effects of cognitive abilities on reading and mathematics achievement across race and ethnicity: Evidence with the WJ IV by Daniel B. Hajovsky & Steven R. Chesnut (2022)

Abstract: There has been little research investigating the predictive validity of modern intelligence tests for racially and ethnically diverse students. The validity of test score interpretation within educational and psychological assessment assumes that test scores predict educationally relevant phenomena equally well for individuals, regardless of group membership (American Educational Research Association et al., 2014; Messick, 1995; Warne et al., 2014). We used multiple group latent variable structural equation modeling (SEM) to investigate Cattell-Horn-Carroll general (g) and broad cognitive abilities on reading and mathematics achievement and whether these differed between racial (African American, Asian, and Caucasian) and ethnic (Hispanic, non-Hispanic) children and adolescents within the Woodcock-Johnson IV norming sample (N = 3127). After establishing construct equivalence across racial and ethnic groups, supporting the consistent calculation of composite scores regardless of group membership, we then examined the predictive validity of intelligence on achievement. After controlling for parent education, findings suggested two instances of differential predictive relations: (a) general intelligence had larger influences on basic reading skills for Caucasians when compared to Asian peers, and (b) comprehension-knowledge had larger influences on basic reading skills for Asians when compared to Caucasian peers. The overall pattern of findings suggests there is little to no predictive bias with the WJ IV. However, the findings indicate that when latent mean differences exist (after establishing strong factorial invariance), then bias will be introduced into the estimation of regression parameters used to identify differential predictive validity. Thus, even when measurement invariance is supported, differential prediction bias is inevitable when there are mean differences in the scores used as predictors. Future test bias research should consider latent ability differences and how that may impact findings of bias, and possibly, socioeconomic status related indicators when assessing for measurement or prediction bias in intelligence and achievement tests.

**Learning Disabilities: Whatever Happened to Intensive Instruction? Volume 42, No. 1
January/February 2007 by Daniel P. Hallahan**

Martha Minow has coined the term dilemma of difference. This is the dilemma one faces by either ignoring or recognizing differences in children. To recognize difference carries the risk of labeling and stigmatizing students. To ignore difference, however, runs the risk of neglecting student's instructional needs. I think the field of special education has turned a blind eye to difference. I think we need to own up to the fact that we'll never have a perfect answer to the dilemma of difference. I think admitting that there is no perfect solution can free us up to recognize, not ignore, the differences students with learning disabilities exhibit. Of course, we need to work toward reducing these differences. And the way to do this, I believe, is through intensive instruction. If we disregard differences, students with learning disabilities won't learn and they won't escape being stigmatized because of their differences. But if we acknowledge their differences, students with learning disabilities can learn as long as we provide them with intensive, relentless, iterative, individualized instruction that depends on a viable categorical approach to special education service delivery.

**A Meta-Analysis of the RTI Literature for Children at Risk for Reading Disabilities by
Loan Tran, Tori Sanchez, Brenda Arellano, and H. Lee Swanson (2011)**

Abstract: This article synthesizes the literature comparing at-risk children designated as responders and low responders to interventions in reading. The central question addressed in this review is whether individual differences in reading-related skills at pretest predict responders at posttest across a variety of interventions and sets of criteria for determining responding and low responding. A total of 13 studies met criteria for the meta-analysis, yielding 107 weighted effect sizes (ESs) at posttest ($M = .76$, $SE = .03$, 95% confidence interval [CI] = .71, .81) and 108 weighted ESs at pretest ($M = 1.02$, $SE = .03$, CI = 1.02, 1.13). The results showed that the magnitude of ES between responders and low responders increased from pretest to posttest on measures of reading (e.g., real word identification = 1.06 vs. 1.53, word attack = 1.10 vs. 1.28, and passage comprehension, 0.45 vs. 1.43). Hierarchical linear modeling indicated that overall posttest ESs were significantly moderated by pretest scores as well as the type of measure administered, whereas no significant moderating effects were found for number of weeks of intervention, length of sessions, number of sessions, type of intervention (one-to-one vs. small group instruction), and criteria for defining responders (cutoff, scores, discrepancy, benchmark). Overall, the synthesis suggested that regardless of type of treatment and identification criteria, response-to-intervention (RTI) conditions were not effective in mitigating learner characteristics related to pretest conditions.

Children's Reading Comprehension Difficulties: Nature, Causes, and Treatments by Charles Hulme and Margaret J. Snowling (2011)

Abstract: The goal of reading is to extract meaning from text, and this depends upon both decoding and language-comprehension skills. Recently there has been growing interest in children who can read accurately but have poor comprehension. Reading-comprehension impairment is relatively common, although it often goes unrecognized in the classroom. Children with reading-comprehension impairment have a range of oral-language weaknesses, which impede their comprehension of both written and spoken language. Recent studies indicate that these underlying oral-language difficulties can be ameliorated by school-based interventions, which can, in turn, improve both reading- and listening-comprehension skills. Early interventions to reduce such language-learning weaknesses potentially have very important educational, social, and economic implications.

A Multigroup Investigation of Latent Cognitive Abilities and Reading Achievement Relations Daniel Hajovsky University of Kansas Matthew R. Reynolds University of Kansas by Randy G. Floyd University of Memphis Joshua J. Turek University of Kansas Timothy Z. Keith University of Texas (2013)

Abstract: The structural relations between the Cattell–Horn–Carroll abilities and reading achievement outcome variables across child and adolescent development were examined in the Kaufman Assessment Battery for Children, Second Edition, and the Kaufman Test of Educational Achievement, Second Edition, conormed sample. We estimated single-group models using a cross-validation technique and then tested those salient effects using multigroup structural equation models to test the equality of salient effects across stages of development to determine whether those effects were moderated by grade. Nonequivalent models were also used to test the directionality of reading decoding and reading comprehension. The direct effects of long-term retrieval and short-term memory on reading decoding were the same across grade groupings. Findings support moderation by grade for the direct effects of comprehension–knowledge and reading decoding on reading comprehension. In Grades 1–6, the direct effect of comprehension–knowledge on reading decoding was smaller than the direct effect in Grades 7–12. The direct effect of comprehension–knowledge on reading comprehension was much smaller in Grades 1–3 compared with Grades 4–12. The path from reading decoding to reading comprehension was much larger in Grades 1–3 compared with Grades 4–12. The nonequivalent models suggest that the directionality of influence is from reading decoding to reading comprehension and not vice versa. Results from this study support a differentiated view of reading development with increases in comprehension–knowledge and decreases in reading decoding in explaining individual differences in reading comprehension over time.

THE ROLE OF CATTELL–HORN–CARROLL (CHC) COGNITIVE ABILITIES IN PREDICTING WRITING ACHIEVEMENT DURING THE SCHOOL-AGE YEARS by DAMIEN C. CORMIER AND OKAN BULUT University of Alberta KEVIN S. MCGREW University of Minnesota JESSICA FRISON University of Alberta (2016)

Abstract: Writing is a complex academic task—it involves numerous mental processes. Given the necessity for developing writing skills from elementary to secondary school, this study aimed to investigate the role of broad cognitive abilities derived from the Cattell–Horn–Carroll (CHC) theory of intelligence in predicting skills associated with writing achievement. The normative sample from the fourth edition of the Woodcock–Johnson Tests of Cognitive Abilities and the Woodcock–Johnson Tests Academic Achievement were used to examine the relationships between broad CHC abilities and academic achievement in writing. The findings of this study suggest that the broad CHC abilities Comprehension-Knowledge, Processing Speed, and Fluid Reasoning are especially important predictors of basic writing skills and written expression during the school-age years. In general, changes in the strength of the association between cognitive abilities and academic achievement in writing are observed over time, as the cognitive demands involved in the writing increase in complexity in later grades.

Differences in Specific Learning Disability Identification with the Woodcock-Johnson IV by Jared T. Izumi, Matthew K. Burns, and Craig L. Frisby University of Missouri–Columbia (2019)

Abstract: The Ability Achievement Discrepancy model remains the primary identification method used by school personnel. This study examined the identification of a specific learning disability using the Ability Achievement Discrepancy model with the Woodcock-Johnson IV (WJ-IV). Two different test scores can be used to represent the ability construct: one that maintains the overlap between intelligence quotient (IQ) and basic psychological processes (i.e., general intellectual ability) and one that mostly removes the overlap between IQ and basic psychological processes (i.e., fluid–crystallized intelligence). The study included 3,736 individuals from the WJ-IV standardization sample to ascertain whether different proportions of individuals were identified by the 2 methods as well as identify which tests contributed to the differences. 2 tests of independence and absolute ratios were used to examine the proportion of individuals identified; a multivariate analysis of variance and follow-up Tukey honestly significant differences were conducted to determine whether the groups of individuals identified in each model differed on their academic achievement scores, and Mann-Whitney U tests were used to identify the tests that contributed to differences in identification rates. The results indicated that different proportions of individuals were identified as a function of the IQ score used, even though achievement scores were generally similar across identification methods. Black students were overrepresented and White students were underrepresented compared with their proportion in the total sample. Discrepancy profiles largely varied as a function of the internal psychometrics of the WJ-IV rather than characteristics of the individual. Implications for practice and methodological limitations are reviewed.

Intelligence Can Be Used to Make a More Equitable Society but Only When Properly Defined and Applied by LaTasha R. Holden and Sara A. Hart (2021)

Abstract: In the US, undeniable evidence shows that socioeconomic inequities explain a high proportion of individual differences in school achievement. Although not all countries show this same effect due to socioeconomic status, it is consistently found that social inequities lead to achievement gaps. These achievement gaps then manifest into trajectories that set some individuals on a path of lower incomes, poorer health and higher mortality, lower wellbeing, and other poor adult outcomes. Like James Flynn so handily reminded the scientific literature that achievement gaps are explainable by environmental factors, the inequities we see around the world are based on environments some children are exposed to. In his work, Flynn stated his belief that the suppression of scientific work on intelligence would continue to lead to social inequities. We wish to take this idea and move it forward. We believe that the scientific construct of intelligence plays a key role in helping create a more equitable society through science. We also believe that the poor perception of intelligence, rooted in historical realities, means that it will continue to be misunderstood, feared, and misused, limiting how effective it could be in helping to close gaps in achievement and in creating a more equitable society.

How Specific Are Learning Disabilities? by Robin L. Peterson, PhD, Lauren M. McGrath, PhD, Erik G. Willcutt, PhD, Janice M. Keenan, PhD, Richard K. Olson, PhD, and Bruce F. Pennington, PhD (2021)

Abstract: Despite historical emphasis on “specific” learning disabilities (SLDs), academic skills are strongly correlated across the curriculum. Thus, one can ask how specific SLDs truly are. To answer this question, we used bifactor models to identify variance shared across academic domains (academic g), as well as variance unique to reading, mathematics, and writing. Participants included 686 children aged 8 to 16. Although the sample was over selected for learning disabilities, we intentionally included children across the full range of individual differences in this study in response to growing recognition that a dimensional, quantitative view of SLD is more accurate than a categorical view. Confirmatory factor analysis identified five academic domains (basic reading, reading comprehension, basic math, math problem-solving, and written expression); spelling clustered with basic reading and not writing. In the bifactor model, all measures loaded significantly on academic g. Basic reading and mathematics maintained variance distinct from academic g, consistent with the notion of SLDs in these domains. Writing did not maintain specific variance apart from academic g, and evidence for reading comprehension-specific variance was mixed. Academic g was strongly correlated with cognitive g ($r = .72$) but not identical to it. Implications for SLD diagnosis are discussed.

The Influences of Linguistic Demand and Cultural Loading on Cognitive Test Scores by Damien C. Cormier, Kevin S. McGrew, and James E. Ysseldyke (2014)

Abstract: The increasing diversity of the U.S. population has resulted in increased concerns about the psychological assessment of students from culturally and linguistically diverse backgrounds. To date, little empirical research supports recommendations in test selection and interpretation, such as those presented in the Culture–Language Interpretative Matrix (C-LIM). The current investigation was conducted to empirically evaluate the validity of the C-LIM classifications for the Woodcock–Johnson Tests of Cognitive Abilities, Third Edition (WJ III COG). The WJ III Normative Update standardization sample was used to determine the extent to which the two dimensions of the C-LIM (i.e., cultural loading and linguistic demand) influence performance on 20 of the WJ III tests. Results provide support for a re-classification of the C-LIM. Implications for research and school psychology practices are discussed.

Revisiting the Relations Between the WJ-IV Measures of Cattell-Horn-Carroll (CHC) Cognitive Abilities and Reading Achievement During the School-Age Years by Damien C. Cormier, Kevin S. McGrew, Okan Bulut, and Allyson Funamoto (2016)

Abstract: This study examined associations between broad cognitive abilities (Fluid Reasoning [Gf], ShortTerm Working Memory [Gwm], Long-Term Storage and Retrieval [Glr], Processing Speed [Gs], Comprehension-Knowledge [Gc], Visual Processing [Gv], and Auditory Processing [Ga]) and reading achievement (Basic Reading Skills, Reading Rate, Reading Fluency, and Reading Comprehension) in a nationally representative school-age sample. Findings indicate that some cognitive abilities were stronger predictors of reading achievement than previously found (e.g., Gf, Ga, and Gs). Most notably, the Woodcock-Johnson–IV Gf cluster was found to be the strongest and most consistent predictor of reading achievement. A secondary analysis suggests that this effect was likely due to the new Number Series test. The results of the study suggest revisions to previous conceptualizations of the associations between the broad Cattell-HornCarroll abilities and areas of reading achievement. Abstract This study examined associations between broad cognitive abilities (Fluid Reasoning [Gf], ShortTerm Working Memory [Gwm], Long-Term Storage and Retrieval [Glr], Processing Speed [Gs], Comprehension-Knowledge [Gc], Visual Processing [Gv], and Auditory Processing [Ga]) and reading achievement (Basic Reading Skills, Reading Rate, Reading Fluency, and Reading Comprehension) in a nationally representative school-age sample. Findings indicate that some cognitive abilities were stronger predictors of reading achievement than previously found (e.g., Gf, Ga, and Gs). Most notably, the Woodcock-Johnson–IV Gf cluster was found to be the strongest and most consistent predictor of reading achievement. A secondary analysis suggests that this effect was likely due to the new Number Series test. The results of the study suggest revisions to previous conceptualizations of the associations between the broad Cattell-Horn-Carroll abilities and areas of reading achievement.

Identifying Reading Disabilities: A Survey of Practitioners Noor Z. Al Dahhan, PhD, Laura Mesite, EdD, Melissa J. Feller, MS, CCC-SLP, and Joanna A. Christodoulou, EdD (2021)

Abstract: Accurate and timely identification of reading disabilities (RDs) is essential for providing appropriate and effective remediation for struggling readers. However, practices for identifying RDs lack sufficient documentation within and across educational and clinical settings. The wide range of possible practices intended to identify struggling readers can render the field vulnerable to inconsistencies in how the needs of struggling readers are recognized and supported. To better understand the range of current practices used to identify RDs in school-age children, we created and disseminated a survey nationally, and analyzed data from 965 practitioners. The findings indicate lengthy timelines to identify RDs; substantial variability in the composition of assessment teams, identification criteria, and diagnostic labels; and notable opportunities for enhancing practitioner training experiences. This study aims to promote cross-contextual dialogue about the identification of RDs and their implications for students' educational experiences.

School Psychology Quarterly, Vol. 14, No. 3, 1999, pp. 195-207 Straight Talk About Cognitive Assessment and Diversity by Craig L. Frisby University of Missouri

Unfortunately, "diversity" is a highly politicized word in contemporary psychology and education that is, more often than not, used as a polite euphemism for the practice of categorizing and relating to individuals as if they are representatives of racial, ethnic, and/or language groups. In contrast, the science of differential psychology addresses group characteristics in the context of ultimately understanding influences on individual differences. As such, there are a limitless number of psychological variables that enter into meaningful variation among individuals. From a strictly scientific (i.e., nonpoliticized) perspective, all diversity boils down to individual differences. Individual differences within racial or ethnic groups have always been greater than average differences across groups on a host of important psychological variables (Rushton, 1995). As a result, the notion of a "group" characteristic must necessarily exist at the level of an abstraction that may or may not have relevance for any particular individual from the group.

Are Individual Differences in Response to Intervention Influenced by the Methods and Measures Used to Define Response? Implications for Identifying Children With Learning Disabilities by Emma L. Hendricks, PhD and Douglas Fuchs, PhD (2020)

Abstract: Response to intervention (RTI) has been promoted for nearly 20 years as a valid supplement to or alternative method of learning disability (LD) identification. Nevertheless, important unresolved questions remain about its role in disability identification. We had two purposes when conducting this study of 229 economically and racially diverse poor readers in Grades 4 and 5 in 28 public elementary and middle schools in Nashville. First, we examined predictors of the children's response to a reading comprehension tutoring program. Second, we explored the utility of different methods (growth vs final status) and measures (near- and mid-

transfer vs far-transfer) in operationalizing “response,” and whether these contrasting methods and measures identified similar children. Findings indicated students with higher pretreatment scores on expressive vocabulary, nonverbal IQ, teacher ratings of attention, and reading comprehension measures were more likely classified as responsive with final status methods. Students with lower pretreatment comprehension scores were more likely identified as responsive with growth methods. These and other findings suggest “response” is strongly context dependent, raising questions about the validity of RTI as a means of disability identification.

Linguistic Influences on Cognitive Test Performance: Examinee Characteristics Are More Important than Test Characteristics by Damien C. Cormier, Okan Bulut, Kevin S. McGrew, and Kathleen Kennedy (2022)

Abstract: Consideration of the influence of English language skills during testing is an understandable requirement for fair and valid cognitive test interpretation. Several professional standards and expert recommendations exist to guide psychologists as they attempt to engage in best practices when assessing English learners (ELs). Nonetheless, relatively few evidence-based recommendations for practice have been specified for psychologists. To address this issue, we used a mixed-effects modeling approach to examine the influences of test characteristics (i.e., test directions) and examinee characteristics (i.e., expressive and receptive language abilities) on cognitive test performance. Our results suggest that language abilities appear to have a significant influence on cognitive test performance, whereas test characteristics do not influence performance, after accounting for language abilities. Implications for practice include the assessment of expressive and receptive language abilities of EL students prior to administering, scoring, and interpreting cognitive test scores.

Is the Cattell–Horn–Carroll-Based Factor Structure of the Wechsler Intelligence Scale for Children—Fifth Edition (WISC-V) Construct Invariant for a Representative Sample of African–American, Hispanic, and Caucasian Male and Female Students Ages 6 to 16 Years? by Caroline Scheiber (2016)

Abstract: Since the inception of testing, the examination of test bias has been discussed and debated in the literature. As new tests are developed or old tests are revised, part of the standardization process involves the examination of gender and ethnic item bias. The exploration of construct invariance across different ethnic and gender groups, however, is not part of the test construction or validation process. This study investigated factorial invariance of the Cattell–Horn–Carroll (CHC)-based factor structure of the most recent version of the Wechsler tests—the Wechsler Intelligence Scale For Children—Fifth Edition (WISC-V; Wechsler 2014a)—across a representative sample of African–American, Hispanic, and Caucasian male and female students ages 6–16 years (N= 2637). Specifically, confirmatory factor analysis was used to explore whether increasing sets of equality constraints fit the underlying theoretical structure of the WISC-V equally well. Results showed that all five CHC broad abilities, in addition to the general factor g, demonstrated structural invariance for all six ethnic/gender groups. Findings

from this study suggest that, despite mean score differences, neuropsychologists can be confident that the WISC-V factor structure is equivalent for the different subgroups and scores are, thus, equally meaningful for African-American, Hispanic, and Caucasian male and female students. These results are of value, given the frequent use of intelligence tests, especially of the WISC-V, when making important and, oftentimes, lifechanging decisions regarding diagnosis and access or denial to special programs and classes.

Is the WISC-V a Fair Test for Black Children: Factor Structure in an Urban Public School Sample by Scott L. Graves Jr & Leanne V. Smith & Kayla D. Nichols (2021)

Abstract: The purpose of this paper is to explore the factor structure of the Wechsler Intelligence Scale for Children-Fifth edition (WISC-V). As such, this is the first study that will examine the factor structure of the WISC-V in a non-standardization sample of Black children. Utilizing confirmatory and exploratory factor analytic techniques in AMOS our results indicated that a four-factor model fits the data better than five-factor solution that was proposed by the test developers, for the Black sample. Furthermore, two subtests, Picture Span and Figure Weights, were not invariant by race, which indicates that these measures of Fluid Reasoning and Working Memory operate differently for Black and White students and are not consistent with differences in scores on these subtests. Research indicates that these two subtests are the most demanding from a linguistic standpoint, which necessitates further research on how directions are administered. Implications will be discussed in terms school psychologists increasing the rigor of their research practices by decreasing the use of standardization samples and conducting more research with Black children.

A Meta-Analysis of the RTI Literature for Children at Risk for Reading Disabilities by Loan Tran, Tori Sanchez, Brenda Arellano, and H. Lee Swanson (2011)

Abstract: This article synthesizes the literature comparing at-risk children designated as responders and low responders to interventions in reading. The central question addressed in this review is whether individual differences in reading-related skills at pretest predict responders at posttest across a variety of interventions and sets of criteria for determining responding and low responding. A total of 13 studies met criteria for the meta-analysis, yielding 107 weighted effect sizes (ESs) at posttest ($M = .76$, $SE = .03$, 95% confidence interval [CI] = .71, .81) and 108 weighted ESs at pretest ($M = 1.02$, $SE = .03$, CI = 1.02, 1.13). The results showed that the magnitude of ES between responders and low responders increased from pretest to posttest on measures of reading (e.g., real word identification = 1.06 vs. 1.53, word attack = 1.10 vs. 1.28, and passage comprehension, 0.45 vs. 1.43). Hierarchical linear modeling indicated that overall posttest ESs were significantly moderated by pretest scores as well as the type of measure administered, whereas no significant moderating effects were found for number of weeks of intervention, length of sessions, number of sessions, type of intervention (one-to-one vs. small group instruction), and criteria for defining responders (cutoff, scores, discrepancy, benchmark). Overall, the synthesis suggested that regardless of type of treatment and identification criteria,

response-to-intervention (RTI) conditions were not effective in mitigating learner characteristics related to pretest conditions.

A TIME TO DEFINE: MAKING THE SPECIFIC LEARNING DISABILITY DEFINITION PRESCRIBE SPECIFIC LEARNING DISABILITY by Kenneth A. Kavale, Lucinda S. Spaulding, and Andrea P. Beam

Abstract: Unlike other special education categories defined in U.S. law (Individuals with Disabilities Education Act), the definition of specific learning disability (SLD) has not changed since first proposed in 1968. Thus, although the operational definition of SLD has responded to new knowledge and understanding about the construct, the formal definition has remained static for 40 years, creating a schism between theory and practice. Using concepts gleaned from the scientific study of formal and operational definitions as well as the history of another special education category (i.e., mental retardation), in this article we demonstrate why change in the SLD definition is necessary. Finally, we propose a change in the SLD definition in federal regulations to redress the disconnect between theory and practice and restore integrity to the SLD field.

Bias, Fairness, and Validity in Graduate-School Admissions: A Psychometric Perspective by Sang Eun Woo, James M. LeBreton, Melissa G. Keith, and Louis Tay (2022)

Abstract: As many schools and departments are considering the removal of the Graduate Record Examination (GRE) from their graduate-school admission processes to enhance equity and diversity in higher education, controversies arise. From a psychometric perspective, we see a critical need for clarifying the meanings of measurement “bias” and “fairness” to create common ground for constructive discussions within the field of psychology, higher education, and beyond. We critically evaluate six major sources of information that are widely used to help inform graduate-school admissions decisions: grade point average, personal statements, resumes/curriculum vitae, letters of recommendation, interviews, and GRE. We review empirical research evidence available to date on the validity, bias, and fairness issues associated with each of these admission measures and identify potential issues that have been overlooked in the literature. We conclude by suggesting several directions for practical steps to improve the current admissions decisions and highlighting areas in which future research would be beneficial.

Children’s Reading Comprehension Difficulties: Nature, Causes, and Treatments by Charles Hulme and Margaret J. Snowling (2011)

Abstract: The goal of reading is to extract meaning from text, and this depends upon both decoding and language-comprehension skills. Recently there has been growing interest in children who can read accurately but have poor comprehension. Reading-comprehension impairment is relatively common, although it often goes unrecognized in the classroom. Children

with reading-comprehension impairment have a range of oral-language weaknesses, which impede their comprehension of both written and spoken language. Recent studies indicate that these underlying oral-language difficulties can be ameliorated by school-based interventions, which can, in turn, improve both reading- and listening-comprehension skills. Early interventions to reduce such language-learning weaknesses potentially have very important educational, social, and economic implications.

Deliberate Context-Driven Conceptualization in Psychological Assessment by A. Jordan Wright (2021)

Abstract: Clinical formulation and case conceptualization in clinical psychological assessment typically organize a client's presenting problems within a psychological framework and narrative that explains the cluster of symptoms, etiological and maintenance factors, and explaining both how and why a client is struggling or suffering. However, many of the most commonly used models of case conceptualization, as well as the preponderance of tests and measures used in psychological assessment, minimize or ignore the impacts of contextual factors, including dominant culture's expectations for normative behavior and the client's history of trauma and adverse and negative events. This paper presents a rationale and model for encouraging psychologists conducting clinical psychological assessment to be deliberate in first considering contextual factors in case conceptualization before relying entirely on primarily intrapsychic models. While contextual conceptualizations will not always replace (or join) intrapsychic models of case formulation, being deliberate and explicit about at least considering them is an important way to mitigate some of psychologists' biases and has the potential to situate a narrative of client difficulties in a way that takes at least some of the burden off the client.

DISCREPANCY MODELS IN THE IDENTIFICATION OF LEARNING DISABILITY by Kenneth A. Kavale, University of Iowa (2001)

EXECUTIVE SUMMARY: This paper reviews issues surrounding the use of discrepancy in identifying learning disability. Since 1976, discrepancy has been the primary criterion for defining learning disability in practice. In a psychometric and statistical sense, however, issues about the best means for calculating a discrepancy remain problematic. Another issue involves divergent findings about how systematically and rigorously the discrepancy criterion has been applied in practice. Despite these issues, the paper demonstrates that learning disability can be reliably differentiated from other conditions and that discrepancy is a major factor in demonstrating the differences.

Ending the Reading Wars: Reading Acquisition from Novice to Expert by Anne Castles, Kathleen Rastle, and Kate Nation (2018)

Abstract: There is intense public interest in questions surrounding how children learn to read and how they can best be taught. Research in psychological science has provided answers to many of these questions but, somewhat surprisingly, this research has been slow to make inroads into educational policy and practice. Instead, the field has been plagued by decades of “reading wars.” Even now, there remains a wide gap between the state of research knowledge about learning to read and the state of public understanding. The aim of this article is to fill this gap. We present a comprehensive tutorial review of the science of learning to read, spanning from children’s earliest alphabetic skills through to the fluent word recognition and skilled text comprehension characteristic of expert readers. We explain why phonics instruction is so central to learning in a writing system such as English. But we also move beyond phonics, reviewing research on what else children need to learn to become expert readers and considering how this might be translated into effective classroom practice. We call for an end to the reading wars and recommend an agenda for instruction and research in reading acquisition that is balanced, developmentally informed, and based on a deep understanding of how language and writing systems work.

Helping School Psychologists and Districts Estimate the Cost of Adopting the Dual Discrepancy/ Consistency PSW Method for SLD Identification by Andrew Shanock, Dawn P. Flanagan, Vincent C. Alfonso, and Monica McHale-Small (2021)

Abstract: The objective of this study is to assist school psychologists and school districts in understanding the cost of implementing the Dual Discrepancy/Consistency (DD/C) method, which is the most widely used PSW method of SLD identification. A literature review was conducted to obtain national data on variables needed to estimate the cost of implementing DD/C (e.g., school psychologist to student ratio, a district’s assessment infrastructure). A national survey of school psychologists was conducted to gather information not found in the literature. Based on the obtained data, we modified existing assumptions and recalculated the cost of implementing DD/C. Our literature review found only one study, authored by Williams and Miciak, that addressed the cost of PSW and it was specific to DD/C. Responses from 468 school psychologists revealed that most districts have an assessment infrastructure. Our recalculated cost of implementing DD/C is approximately \$190,000 less than Williams and Miciak’s estimate. Our recalculated cost of an evaluation ranged from \$368.56 to \$376.22, which is \$1,671.24 and \$1,570.55 lower than William and Miciak’s estimates, respectively. Research on learning and learning disabilities indicates that specific cognitive processes are relevant to the acquisition and development of academic skills. Evaluations that follow DD/C encourage assessment of these cognitive processes. We conclude that the cost of adopting DD/C should be based primarily on the software needed to implement it (\$65.00/ psychologist) and at least one day of professional development training. Because the cost seems reasonable for most districts, DD/C should be given serious consideration.

Identifying Specific Learning Disability: Is Responsiveness to Intervention the Answer? by Kenneth A. Kavale (2005)

Abstract: Responsiveness to intervention (RTI) is being proposed as an alternative model for making decisions about the presence or absence of specific learning disability. I argue that there are many questions about RTI that remain unanswered, and radical changes in proposed regulations are not warranted at this time. Many fundamental issues related to RTI are unresolved, and a better strategy may be to more rigorously implement existing identification criteria (e.g., discrepancy and psychological processing deficits) in a structured psychometric framework. Suggestions on how to modify present procedures are provided.

Is Response to Intervention Good Policy for Specific Learning Disability? by Kenneth A. Kavale and Lucinda S. Spaulding (2008)

Abstract: The reauthorized Individuals with Disabilities Education Improvement Act (IDEA) established new provisions for specific learning disability (SLD) identification, including: (a) no longer requiring consideration of IQ–achievement discrepancy and (b) permitting response to intervention (RTI) as part of SLD evaluation procedures. We discuss several policy implications of these new regulations by considering the original construct of SLD, the still “experimental” status and implementation of RTI, the closer alignment of RTI objectives with No Child Left Behind than former IDEA regulations, and the shift in focus from serving as a special education identification procedure to a general education instructional procedure. We conclude by proposing several recommendations for the appropriate inclusion of both RTI and psychometric evaluation within the continuum of SLD identification procedures.

Mathematics and Learning Disabilities by David C. Geary (2004)

Abstract: Between 5% and 8% of school-age children have some form of memory or cognitive deficit that interferes with their ability to learn concepts or procedures in one or more mathematical domains. A review of the arithmetical competencies of these children is provided, along with discussion of underlying memory and cognitive deficits and potential neural correlates. The deficits are discussed in terms of three subtypes of mathematics learning disability and in terms of a more general framework for linking research in mathematical cognition to research in learning disabilities.

Relations Among Phonological Processing Skills and Mathematics in Children: A Meta-Analysis by Xiujie Yang, Mengge Yan, Yijun Ruan, Serena Yuk Yee Ku, Jason Chor Ming Lo, Peng Peng, and Catherine McBride (2022)

Abstract: The present study presents a meta-analysis of the relations between phonological processing abilities and different mathematics subskills. Using a random-effects model with 94 studies (135 unique samples, 826 effect sizes), the present meta-analysis revealed a significant general association between phonological processing and mathematics (average $r = .33$, $p = .001$, 95% CI [.30, .36]). Phonological awareness (PA) and rapid automatized naming (RAN) showed stronger correlations with mathematics than phonological memory (PM) did. The correlations among phonological processing abilities and mathematics skills were generally stronger among younger children than among older children. PA and PM manifested larger effect sizes when correlated with mathematics accuracy than with mathematics fluency, whereas RAN yielded larger effect sizes when associated with mathematics fluency than with mathematics accuracy. Metastructural equation modeling results revealed that, after statistically controlling for domain-general abilities (i.e., vocabulary knowledge, executive functioning, and nonverbal intelligence), phonological processing still made a unique contribution to different mathematics subskills ($\beta = .20$ -.54). These results suggest that children may use phonological processing abilities as one mechanism through which to represent, manipulate, and retrieve mathematics knowledge.

RESPONSE-TO-INTERVENTION: SEPARATING THE RHETORIC OF SELF-CONGRATULATION FROM THE REALITY OF SPECIFIC LEARNING DISABILITY IDENTIFICATION by Kenneth A. Kavale, James M. Kauffman, Randy J. Bachmeier, and Gretchen B. LeFever (2008)

Abstract: The policies underlying the specific learning disability (SLD) regulations in the 2004 reauthorization of the Individuals with Disabilities Education Act (IDEA) are analyzed. The analysis focuses on the Response-to-intervention (RTI) provision ("if the child responds to scientific, research-based intervention") as a diagnostic model, revealing that it is conceptually flawed, practically inadequate, and politically rather than scientifically motivated. It is argued that RTI is best described as a model for providing remedial reading (prereferral) services for students experiencing early reading failure. To achieve a reliable and valid diagnosis of SLD under IDEA, it is argued that a comprehensive psychometric assessment is required. With a model that combines RTI and cognitive assessments, it is possible to provide an identification process that closely aligns with the best current conceptualizations of SLD.

Students With Disabilities In 2020–21, the number of students ages 3–21 who received special education services under the Individuals with Disabilities Education Act (IDEA) was 7.2 million, or 15 percent of all public-school students. Among students receiving special education services, the most common category of disability was specific learning disabilities (33 percent)

Understanding, Educating, and Supporting Children With Specific Learning Disabilities: 50 Years of Science and Practice by Elena L. Grigorenko University of Houston and Baylor College of Medicine Donald L. Compton Florida State University Lynn S. Fuchs Vanderbilt University Richard K. Wagner Florida State University Erik G. Willcutt University of Colorado Boulder Jack M. Fletcher University of Houston (2020)

Abstract: Specific learning disabilities (SLDs) are highly relevant to the science and practice of psychology, both historically and currently, exemplifying the integration of interdisciplinary approaches to human conditions. They can be manifested as primary conditions—as difficulties in acquiring specific academic skills—or as secondary conditions, comorbid to other developmental disorders such as attention-deficit hyperactivity disorder. In this synthesis of historical and contemporary trends in research and practice, we mark the 50th anniversary of the recognition of SLDs as a disability in the United States. Specifically, we address the manifestations, occurrence, identification, comorbidity, etiology, and treatment of SLDs, emphasizing the integration of information from the interdisciplinary fields of psychology, education, psychiatry, genetics, and cognitive neuroscience. SLDs, exemplified here by specific word reading, reading comprehension, mathematics, and written expression disabilities, represent spectrum disorders, each occurring in approximately 5% to 15% of the school-aged population. In addition to risk for academic deficiencies and related functional social, emotional, and behavioral difficulties, those with SLDs often have poorer long-term social and vocational outcomes. Given the high rate of occurrence of SLDs and their lifelong negative impact on functioning if not treated, it is important to establish and maintain effective prevention, surveillance, and treatment systems involving professionals from various disciplines trained to minimize the risk and maximize the protective factors for SLDs.

Working Memory, Short-Term Memory, and Reading Disabilities A Selective Meta-Analysis of the Literature by H. Lee Swanson Xinhua Zheng University of California–Riverside Olga Jerman Frostig School–Pasadena (2009)

Abstract: The purpose of the present study was to synthesize research that compares children with and without reading disabilities (RD) on measures of short-term memory (STM) and working memory (WM). Across a broad age, reading, and IQ range, 578 effect sizes (ESs) were computed, yielding a mean ES across studies of $-.89$ ($SD = 1.03$). A total of 257 ESs were in the moderate range for STM measures ($M = -.61$, 95% confidence range of $-.65$ to $-.58$), and 320 ESs were in the moderate range for WM measures ($M = -.67$, 95% confidence range of $-.68$ to $-.64$). The results indicated that children with RD were distinctively disadvantaged compared with

average readers on (a) STM measures requiring the recall of phonemes and digit sequences and (b) WM measures requiring the simultaneous processing and storage of digits within sentence sequences and final words from unrelated sentences. No significant moderating effects emerged for age, IQ, or reading level on memory ESs. The findings indicated that domain-specific STM and WM differences between ability groups persisted across age, suggesting that a verbal deficit model that fails to efficiently draw resources from both a phonological and executive system underlies RD.