

Koziol Verbal and Non-Verbal Cognitive Learning Processes

From: International Mail List for Pediatric Neuropsychology [mailto:PED-NPSY@LISTS.UMN.EDU] On Behalf of Leonard Koziol Sent: Wednesday, March 11, 2009 18:49
To: PED-NPSY@LISTS.UMN.EDU Subject: Re: [PED-NPSY] NLD Issues

I'm familiar - that's why I posted - sorry I didn't include your name as a reference - no oversight intended. See Koziol, L.F, and Budding, D.: *Subcortical Structures and Cognition: Implications for Neuropsychological Assessment*, Springer, 2009. LK

In a message dated 3/11/2009 8:23:27 P.M. Central Daylight Time, jbhale2@AOL.COM writes: We too advocate this approach to neuropsychological interpretation - the verbal/nonverbal dichotomy does not make sense anymore given what we know now about hemisphere functions. Rourke was largely correct in his analysis of white matter dysfunction/syndrome; he just couldn't get past the nonverbal label. For a discussion of our model, which suggests the right hemisphere is specialized for discordant/divergent thought, and the left for concordant/convergent thought, see: Bryan, K. L., & Hale, J. B. (2001). Differential Effects of left and right cerebral vascular accidents on language competency. *Journal of the International Neuropsychological Society*, 7, 655-664.

Also, our recent chapter and bestselling book also cover the reconceptualization of hemispheric function. Fiorello, C. A., Hale, J. B., Snyder, E. L., Forrest, E., & Teodori, A. (2008). Validating individual differences through examination of converging psychometric and neuropsychological models of cognitive functioning. In S. K. Thurman & C. A. Fiorello (Eds.), *Applied Cognitive Research in K-3 Classrooms* (pp. 232-254). New York, NY: Routledge.

Hale, J. B., & Fiorello, C. A. (2004). *School neuropsychology: A practitioner's handbook*. New York, NY: Guilford Press.

Brad

-----Original Message----- From: Leonard Koziol <LFKoziol@AOL.COM> To: PED-NPSY@LISTS.UMN.EDU Sent: Wed, 11 Mar 2009 4:42 pm Subject: Re: [PED-NPSY] NLD Issues
Your comments really get to the heart of the matter - thank you!

I think that one huge assumption of the NVLD model is that it assumes the organizing principle of the brain concerns a verbal versus "nonverbal" dichotomy. The problem I have with this dichotomy is that it is not consistent with biological/phylogenetic development along the evolutionary scale - at least not with respect to tetrapods.

Many neuropsychologists (E. Goldberg, K. Podell, and F. Toates to name a few) have made very convincing arguments that the brain organizes information along a principle of novelty versus familiarity/routinization. In these models, the brain strives to take that information which is "novel" and make that information "familiar," since this frees-up cognitive resources for the next episode of novelty - this is what provides the decisive advantage in adaptation. Within this framework, "verbal" is a special instance of routinization or familiarity, while that which is "nonverbal" (NVLD included) is an instance of novelty - in which case NVLD represents a deficit in higher-level problem solving, or a deficit in trying to take something novel and make it familiar - for example, the essence of all problem-solving can be understood as an

attempt to ascertain or discover the stimulus-based characteristics of that situation - which is a novelty-familiarity interaction. PRI and PIQ are really rough indices of problem-solving.

LK

www.subcorticalstructures.com

In a message dated 3/11/2009 3:24:31 P.M. Central Daylight Time, spreen@UVIC.CA writes: Hi all lovers of NVLD diagnoses. Why use the NVLD label at all if it is based on VIQ/PIQ or achievement test discrepancies? Rourke himself had a long list of other characteristics to go with the "syndrome", and, in turn, realized that it can be found in numerous childhood disorders, ranging from callosal agenesis to Turners to Sotos to toxicant-induced encephalopathy. I don't see how any of these can be described as LD or specifically NVLD, just because they have something in common with the model. Better to describe the child as you see it in all his/her strengths and weaknesses without putting a label on it. Otfried Spreen.
----- Original Message ----- From: Kira Armstrong To: PED-NPSY@LISTS.UMN.EDU Sent: Sunday, March 08, 2009 1:34 PM Subject: Re: [PED-NPSY] NLD Issues

Hi Sara

I cannot tell you how many times I've seen a child's ADHD lead to an "NVLD profile" due to impulsivity, careless errors, inattention (especially for visual memory tasks) and/or a tendency to not pay attention to small details. Furthermore, the difficulties with organization and other executive dysfunction that commonly accompany ADHD can also appear to lead to "visually-based" weaknesses and even math difficulties even if a child's true visual-perceptual skills are entirely intact. If the child also happens to have a socially based anxiety, people suggest this is secondary to his or her "NVLD" rather than a major contribution to their social difficulties (in addition to their ADHD) and it becomes a self-fulfilling diagnostic error.

I think in these cases parents are not so much committed to the child's diagnosis -- as they are to the "answers" the diagnosis presumably offers them. If you can help them to see how a different diagnostic classification can give the child the support he or she truly needs then it may be easier for them to accept your conclusions and associated recommendations.

Good luck!

Kira

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-----Original Message----- From: International Mail List for Pediatric Neuropsychology [mailto:PED-NPSY@LISTS.UMN.EDU] On Behalf Of Sarah Warren Sent: Sunday, March 08, 2009 12:41 PM To: PED-NPSY@LISTS.UMN.EDU Subject: [PED-NPSY] NLD Issues

Dear List,

I know that the topic of Nonverbal Learning Disability has been visited several times. I have tried to stay current, and working at a high school of some 1700 students, there are times when we see and work with students who have test results and functioning that fit the

pattern well.

Then along comes the case of a student who is new to our district, a 14 yo freshman. Is in college prep courses (one step below AP/honors) in all areas but math (where the student is a year accelerated, taking Geometry as a freshman). Had some problems in English initially, but with some organizational supports through a guided study hall, recovered well. Is the focus of some hassling/bullying, and these episodes have been promptly dealt with, although I consider this an ongoing concern. Family reports a history of ADHD and NLD. While researching the basis of these diagnoses, we come to find that the NLD dx was based on a large V/P split as an 8 year old (VCI close to 150, PRI around 112ish). There were no other measures I can recall aside from personality and CPT given at that time, and the evaluator concluded that there was giftedness and mild ADHD. No mention of NLD in the report, but later school-based assessments referred to this first assessment as consistent with NLD ! - but it is not clear who made the declaration. While the student has been previously assessed for Special Ed eligibility, a 504 plan resulted instead and was in place for several years. Upon arriving at our school, the request for the 504 plan was denied, and we came to our attention through a subsequent referral to Spec. Ed.

Now, am I being too much of a purist²⁰ if I labor under the belief that NLD, for all the ongoing discussion, continues to be "a pattern of neuropsychological strengths and weaknesses" that was previously defined largely on the basis of the "preponderance of the evidence" available through use of the 8 criteria commonly associated with Dr. Rourke's work? When I assessed the student, I found a VCI of 122, a PRI of 113, WMI of 112ish, and a processing speed of around 78 (I'm reporting this from memory - it may have been a little lower). Coding and Symbol search were uniform (6) although Cx was 10 (no difference between random and structured). I gave Coding Copy (low at 5). VMI was 93, somewhat better on perception and motor versions - and handwriting is laborious (we started the student on DragonSpeak). Spatial Span was an 8. Grooved Pegboard was at the mean for the preferred (right) hand and slower (but not below one SD) for the left. Finger tapping was fine on both sides, no sensory problems, and all finger locations and fingertip writing identifications were fine (no errors). During an interview, the student used (and identified) sarcasm - (the student is not sarcastic in general, presents as verbal but socially immature - I mention this only because I'm not sure someone with "classic" NLD would be able to do this!). Achievement results: WIAT word reading 105, GORT scores all 11s and 12s (no difference between accuracy and comprehension). Math scores around 115.

The family is very invested in the NLD dx, and each new practitioner they work with (new family therapist and psychiatrist because of the recent move) seem to accept the dx without question. When I viewed the current assessment data, I tallied up the findings using Rourke's 8 criteria, assigning any measure I didn't have/give in the NLD direction, so gave the benefit of the doubt to the NLD dx. The count was 4/4 - questionable NLD. Do I believe this student has difficulties, some of which have NLD characteristics? Yes, I do. Do I also believe that some of these symptoms (including some of the social immaturity/difficulties) can possibly be accounted for by the ADHD? Yes, I do. Do I believe he convincingly meets the assessment criteria for NLD - hmmm, I still question this. Regardless, from an educational perspective, I think there is little to lose in providing some services and supports, and have and will lobby for this - probably 504 in nature. I have not directly challenged the NLD dx because I see little

to gain from that fight - the family will likely see that as a denial that there is anything problematic going on. But I assume the issue will be raised again and again. SO, learned list members, feel free to enlighten me on any new perspectives on the NLD diagnostic issue. I know that the degree of difference between the strengths and weaknesses is considered diagnostically important and related to severity, but in the absence of any significant "final pathway" impact on reading comprehension OR math, does this type of profile presented above seem convincing? I know this sounds like an over-reliance on diagnostics and that the bigger goal is to re-float the educational boat, but I do not believe either has to be sacrificed - these activities can run on parallel tracks. But I would like to know the current state of the professional thinking on this issue.

Many thanks for any input.

S. Warren, Psy.D.