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## Schools and the Challenge of LD and ADHD Misdiagnoses\*

Youngsters manifesting learning problems, misbehavior, and emotional upset commonly are assigned psychiatric labels that were created to categorize internal disorders. Thus, there is increasing use of terms such as learning disabilities (LD), attention deficit/hyperactivity disorder (ADHD), depression, and so forth. This happens despite the fact that the problems of most youngsters are not rooted primarily in internal dysfunctioning. Indeed, many of the troubles manifested by youngsters would not have developed if their environmental circumstances had been appropriately different.

Currently at schools, LD and ADHD are the two most commonly diagnosed learning and behavior problems. Informed researchers, practitioners, and policy makers in the U.S. and in other countries have cautioned about widespread misapplications of the terms and large numbers of *false positive* misdiagnoses resulting from indiscriminate use and classification practices that leave much to be desired. The problem of false positives has become an increasing concern because a significant number of older students are feigning symptoms of LD and ADHD to obtain special accommodations in the classroom and in academic testing situations (Harrison, Edwards, & Parker, 2007, 2008; Harrison & Rosenblum, 2010; Sullivan, May, & Galbally, 2007).

Labeling students as LD and ADHD clearly is a serious matter. Strong images are associated with these diagnostic labels. Sometimes the images are useful generalizations; sometimes they are harmful stereotypes. Sometimes they guide practitioners toward good ways to help; sometimes they contribute to "blaming the victim" – making young people the focus of intervention rather than improving system deficiencies that are causing the problems in the first place. In all cases, diagnostic labels can profoundly shape a person's future and influence what is and isn't done to ensure equity of opportunity at school.

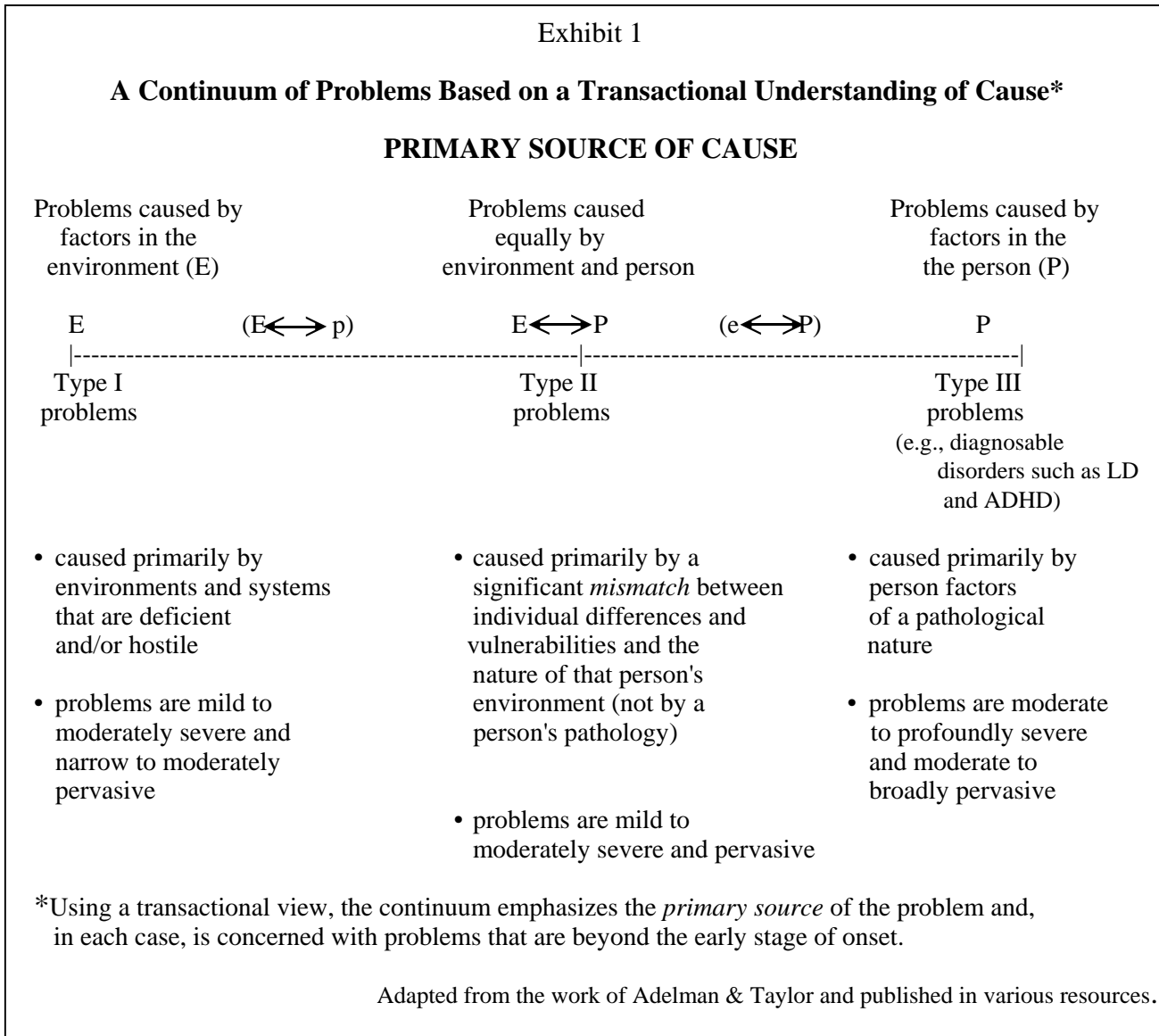
Many of the concerns related to diagnosing LD and ADHD have been discussed widely (e.g., Adelman & Taylor, 2010). What often is not well understood is the bias that results from making a *differential diagnosis* using the prevailing classification schemes (i.e., special education diagnostic labels, the Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition – DSM -IV, the International Classification of Diseases, 10<sup>th</sup> edition – ICD-10). Such taxonomies offer choices only among categorical labels that denote internal dysfunctions. The

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\*Note: The center at UCLA is co-directed by Howard Adelman and Linda Taylor and operates under the auspices of the School Mental Health Project, Dept. of Psychology, UCLA, Los Angeles, CA 90095-1563 Phone: (310) 825-3634. Email: [smhp@ucla.edu](mailto:smhp@ucla.edu).

This resource was developed by the staff at the Center with the considerable involvement of the following UCLA students: **Jeanna Marie Ashman, Amy Mazariego, Daryl Roldan, and Neha Tamhane.**

problem is compounded by subtyping efforts that focus only on differentiating within the diagnosed group. All this ignores the reality that learning and behaviors *problems* often begin with environmental factors. Understanding the initial causes of students' learning and behavior problems is best done from the perspective of a transactional paradigm (i.e., reciprocal determinism) and dimensional labeling (Adelman & Taylor, 1995; Bandura, 1978; Rutter, Moffitt, Caspi, 2006). A transactional perspective ensures full consideration of ecological viewpoints, while not losing site of the individual's contribution to a given problem. Exhibit 1 illustrates the point.



As illustrated, when a learning, behavior, and/or emotional problem arises, a transactional paradigm considers whether the primary instigating factors leading to the problem stem from conditions in (a) the environment, (b) factors within a person, or (c) a specific set of transactions. For example, some neighborhood, home, and school environments seem to produce vulnerabilities to learning and behavior problems. In

contrast, subtle central nervous system disorders that produce learning *disabilities* and attention deficit/hyperactivity *disorders* are much less common.

To be more specific: In this scheme, diagnostic labels meant to identify *extremely* dysfunctional problems *caused by pathological conditions within a person* are reserved for individuals who fit the Type III category. Obviously, some problems caused by pathological conditions within a person are not manifested in severe, pervasive ways, and there are persons without such pathology whose problems do become severe and pervasive. The intent is not to ignore these individuals. As a first categorization step, however, it is essential they not be confused with those seen as having Type III problems.

At the other end of the continuum are individuals with problems arising from factors outside the person (i.e., Type I problems). Many people grow up in impoverished and hostile environments. Such conditions should be considered first in hypothesizing what *initially* caused the individual's learning, behavioral, and emotional problems. (After environmental causes are ruled out, hypotheses about internal pathology become more viable.)

To provide a reference point in the middle of the continuum, a Type II category is used. This group consists of persons who do not function well in situations where their individual differences and minor vulnerabilities are poorly accommodated or are responded to hostilely. The problems of an individual in this group are a relatively equal product of person characteristics and failure of the environment to accommodate that individual.

There are, of course, variations along the continuum that do not precisely fit a category. That is, at each point between the extreme ends, environment-person transactions are the cause, but the degree to which each contributes to the problem varies.

Clearly, a simple continuum cannot do justice to the complexities associated with labeling and differentiating among learning and behavior problems in general and at different periods in an individual's development. The reality is that problems vary in severity, pervasiveness, and chronicity; some problems are not easily or reliably assessed; many are not differentiated readily or validly because problems can have more than one cause and/or manifestation.

Given all this, the continuum outlined in Exhibit 1 illustrates the potential value of starting with a broad model of cause and can play a role in countering tendencies of classification schemes to reify prevailing diagnostic criteria (Hyman, 2010). In particular, it can counter the tendency to jump prematurely to the conclusion that a problem is caused by deficiencies or pathology within the individual and thus can help combat blaming the victim. It also helps highlight the notion that improving the way the environment accommodates individual differences often may be a sufficient strategy for correcting and preventing many learning, behavior, and emotional problems.

## **Schools Are Moving to Stem the Tide of Learning Problem Misdiagnoses**

It is estimated that about 5% of school-aged children are diagnosed as having a learning disability, with core symptoms designated as underachievement of basic academic skills, especially reading, and deficits in processing abilities. By the early 2000s, learning disabilities had become the largest group in special education in the U.S. (about 50% of those with IEPs). It was widely recognized that many were inappropriately diagnosed in order to provide them with additional services. The growing numbers became an excessive drain on already overburdened special education budgets and contributed to the backlash to LD seen in the last reauthorization of the *Individuals with Disabilities Act*.

To stem the tide of false positive misdiagnoses of LD, the federal government adopted the idea of requiring a school procedure called *Response to Intervention* (RTI) before considering a formal diagnosis for special education eligibility (see Appendix). As the RTI initiative spreads, it is intended to be a counter measure to premature diagnoses of LD and ADHD.

It must be noted, however, that concerns have been raised about RTI. From a special education perspective, there is fear that the process will inappropriately delay identification of students with true LD and ADHD. As an intervention initiative, the concern is that the approach will be pursued simplistically. In many places, RTI is viewed primarily as a matter of providing more and better instruction. This is too limited in nature and scope to address the wide range of factors interfering with the learning of many students. Instructional strategies always need to be conceived as one part of a comprehensive system of classroom and school-wide learning supports. Viable school improvement requires that initiatives such as RTI help in differentiating Type I, II, and III problems not only by responding early after onset, but also by preventing many from occurring in the first place (Center for Mental Health in Schools, 2011a, b).

## **Schools Are Not Mobilizing to Stem the Tide of Behavior Problem Misdiagnoses**

After the 1997 reauthorization of IDEA allowed special education services for ADHD, the rates of ADHD diagnosis increased an average of 3% a year. For IEP purposes, these students are grouped under the “other health impairments” category and are the largest group in that category. Students labeled as ADHD also may be diagnosed with other problems such as LD; thus, some are served under the LD designation.

Current estimates are that about 5% of school-aged children are diagnosed as ADHD, with core symptoms being (1) not paying attention when it is asked for, (2) being highly active, and (3) acting impulsively when it is deemed inappropriate. Approximately 75% of those diagnosed are male. In the past, it has been estimated that less than half of those diagnosed will continue to show such symptoms as adults (McCann & Roy-Byrne, 2004); postsecondary institutions, however, are reporting a dramatic increase in students with recent ADHD diagnoses who are seeking special instructional and testing accommodations (Harrison & Rosenblum, 2010). Singh (2008) cites studies indicating that a diagnosis of ADHD is 3-4 times more

likely when criteria specified in the DSM -IV (Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition) are used, as contrasted with criteria delineated in the ICD-10 (International Classification of Diseases -10) for diagnosing Hyperkinetic Disorder. In part this is attributable to differences in the classification systems and in part to the differences in who does the diagnosis. In the U.S., many children and adults are diagnosed as ADHD by general practitioners, including primary-care physicians.

Reported prevalence differs among states (e.g., ranging from 5 to 15% of school aged children). These differences have raised concern that in some communities there is substantial overdiagnosis. As with LD, there is concern that youngsters who manifest “garden-variety” misbehavior or are simply immature may be misdiagnosed as ADHD. For example, a study by Elder (2010) suggests that nearly 1 million children in the U.S. may be misdiagnosed as ADHD because they are the youngest and most immature in their kindergarten class. Concerns about ADHD misdiagnosis are compounded because of the frequency with which the diagnosis leads to prescribing medication. Reports appear rather regularly suggesting that medication is being overprescribed (Volkow & Swanson, 2003; Zito, Safer, dosReis, et al., 2000). Reports in 2007 indicated that about two-thirds of the 4-17 year old diagnosed group were on medication.

Concerns have been raised about the possible role schools play in promoting ADHD diagnoses and recommending medication. This has led to some community forums and legislative hearings and proposals to stop teachers from suggesting to parents that a student has ADHD and to prohibit all school personnel from recommending that parents seek out a prescription for psychotropic medications.

Most schools, of course, are not seeking to increase the special education population; some already find it hard to meet IDEA mandates. And yet, unlike the response to concerns about LD, schools are not mobilizing to the same degree to counter the dilemmas arising from the growing numbers of students diagnosed as ADHD. Of particular concern is the need to play a role in

- (1) identifying false positive diagnoses of ADHD,
- (2) stressing that medication as an insufficient treatment (i.e., while medication is associated with short-term performance improvements, there is no evidence that it produces long-term improvements in academic achievement),
- (3) clarifying for staff and parents the potentially serious side effects of ADHD medications (i.e., the U.S. Food and Drug Administration warns about possible cardiovascular effects, growth suppression, and development of other psychiatric conditions; other social concerns are hypothesized).

And for the future, because stimulants drugs are widely used (e.g., by college students) to gain short-term positive effects on academic performance, schools should be aware that there is some advocacy for making these “cognitive enhancers” available to healthy children as another aid in enhancing their attention and focus on school tasks.

## Ongoing Concerns about Diagnosing Student Problems

Because of the significant differences in reported prevalence of LD and ADHD across the U.S. and around the world, concern has been raised that in some places there is substantial overdiagnosis (LeFever, Arcona, & Antonucci, 2003; Singh, 2008). The degree to which this is the case is compounded by parents and teachers seeking such diagnoses and older students and adults feigning these disorders.

It is noteworthy that early research on LD and ADHD relied on samples that had been previously diagnosed. A cursory look at recent studies indicates that researchers increasingly are doing additional assessment to eliminate inappropriately diagnosed individuals. The numbers turned away include common learning and behavior problems inaccurately labeled. Unfortunately, because of the limitations on validly assessing LD and ADHD, additional assessment to “validate” a previous diagnosis is no assurance of avoiding misdiagnoses (see the sidebar below).

### The Difficulties Diagnosing Learning and Behavior Problems

The problems in making a valid diagnoses of ADHD and LD will continue as long as they are based on clinical assessment of behavioral *symptoms*, rather than on *signs* identified in laboratory tests. The symptom criteria relied on are common behaviors found among children in many cultures and vary significantly with development (e.g., Bauermeister, Canino, Polanczyk, & Rohde, 2010; Elder, 2010; Evans, Morrill, & Parente, 2010). The instability of symptom patterns and the many problems related to reliability and validity of current assessment procedures are well recognized. Also well discussed are the inequities and biases related to race, ethnicity, and primary language (e.g., Hosterman, DuPaul, & Jitendra, 2008).

Recommendations to do more assessment of cognitive impairments and “soft signs” and to emphasize multimethod assessment is not equivalent to assessing hard signs (e.g., Gupta & Kar, 2010; McConaughy, Harder, Antshel, et al., 2010; Singh, 2008). In the absence of hard signs, conclusions about causality (e.g., genetics, neurobiological factors) and subtle, internal central nervous system dysfunctioning remain speculative.

In discussing problems of diagnosing mental disorders in general, Hyman (2010) focuses in on ADHD and concludes:

“The conceptualization of ADHD as a category discontinuous from normalcy is not only implausible, but also inhibits the kind of research that would improve the ... utility of the diagnosis and perhaps its validity. ... Arbitrary symptom counts do not provide effective tools for family doctors and other primary care practitioners, who evaluate the majority of children for ADHD, to make a diagnosis against the moving developmental target of brain maturation.”

Differential diagnosis clearly is difficult and where LD and ADHD rates have increased markedly there usually is a backlash suggesting significant misdiagnosis. This happened with LD in the U.S. in the early 2000s; it is happening currently with ADHD and LD in the United Kingdom. Questions inevitably arise such as:

How often are diagnoses arrived at inappropriately because of personal-professional, social-cultural, and economic interests and biases?

What is the impact on research, practice, policy, and training of skewing differential diagnosis in ways that maximize false positive and minimize false negative diagnoses?

Can school interventions play a significant role in preventing and identifying misdiagnoses?

### **Concluding Comments**

The thinking of those who study learning, behavioral, and emotional problems has long been dominated by models stressing person pathology. This is evident in discussions of cause, diagnosis, and intervention strategies. Because so much discussion focuses on person pathology, diagnostic systems have not been developed in ways that adequately account for psychosocial problems. As a result, comprehensive formal systems used to classify problems in human functioning convey the impression that all learning, behavioral, or emotional problems are instigated by internal pathology.

Most differential diagnoses of children's problems are made by focusing on identifying one or more disorders (e.g., learning disabilities, attention-deficit/ hyperactivity disorder, oppositional defiant disorder, or adjustment disorders), rather than first asking: *Is there a disorder?*

Overemphasis on classifying problems in terms of personal pathology skews theory, research, practice, and public policy. One example is seen in the fact that comprehensive classification systems do not exist for environmentally caused problems or for psychosocial problems (caused by the transaction of internal and environmental factors).

Bias toward labeling problems in terms of personal rather than social causation is bolstered by factors such as (a) attributional bias – a tendency for observers to perceive others' problems as rooted in stable personal dispositions and (b) economic and political influences – whereby society's current priorities and other extrinsic forces shape professional practice.

There is considerable irony in all this because so many school practitioners who use prevailing diagnostic labels understand that most problems in human functioning result from the interplay of person and environment. To counter nature versus nurture biases in thinking about problems, it's helps to approach all diagnostic procedures guided by a broad transactional perspective of what determines human behavior.

*Given all this, is it any wonder that diagnoses of LD and ADHD are controversial?*

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## Appendix

### Response to Intervention (RTI): An Aid in Countering Misdiagnoses

Concern about supporting the RTI movement led the U.S. Department of Education to fund a technical assistance center, the National Center on Response to Intervention, involving the American Institutes for Research and researchers from Vanderbilt University and the University of Kansas (<http://www.rti4success.org/>). Clearly the RTI center increasingly will shape how response to intervention is implemented. So we need to begin by noting the ways in which that center defines and frames response to intervention, and we highlight some concerns about the lack of emphasis on context.

The RTI center stresses that “the purpose of RTI is to provide all students with the best opportunities to succeed in school, identify students with learning or behavioral problems, and ensure that they receive appropriate instruction and related supports.” This purpose is translated into a definition that states “response to intervention integrates assessment and intervention within a multi-level prevention system to maximize student achievement and to reduce behavior problems. With RTI, schools identify students at risk for poor learning outcomes, monitor student progress, provide evidence-based interventions and adjust the intensity and nature of those interventions depending on a student’s responsiveness, and identify students with learning disabilities or other disabilities.”

A RTI center guidebook describes four essential components of response to intervention as (1) a school-wide, multi-level instructional and behavioral system for preventing school failure, (2) screening, (3) progress monitoring, and (4) data-based decision making for instruction, movement within the multi-level system, and disability identification (in accordance with state law). The guidebook also states response to intervention is “a framework for providing comprehensive support to students and is not an instructional practice” and that “RTI is a prevention oriented approach to linking assessment and instruction that can inform educators’ decisions about how best to teach their students.”

The approach formulated by the RTI center is meant to be broad-based and preventative, *but it is too limited* in how it frames what needs to go on in a classroom and schoolwide to enable learning, engage students, and keep them engaged. For RTI to be highly effective, significant changes are needed with respect to how administrators, teachers, student support staff, and other key stakeholders transform those schools where a significant proportion of students lack enthusiasm about attendance and about engaging in the day’s lesson plans. This is especially the case in schools where many students have become disengaged from classroom instruction, are behaving in disruptive ways, and are dropping out. To facilitate the success of such students, staff must enable them to (1) get around interfering barriers and (2) (re)engage in classroom instruction. Properly designed, RTI strategies can help with all this if they are embedded into the larger agenda for transforming classroom and schoolwide approaches in ways that ensure equity of opportunity for all students to succeed at a given school. Applied in a sequential and hierarchical manner RTI can aid in differentiating Type I, II, and III problems and, thus, can help counter misdiagnoses.

Our center at UCLA stresses that major breakthroughs in countering students’ learning, behavior, and emotional problems can be achieved only when school improvement policy, planning, implementation, and accountability *comprehensively* address barriers to learning and teaching and re-engage disconnected students. One major facet of this involves redesigning and transforming a wide range of regular classroom strategies to enable learning. Specifically, we place RTI in the context of the classroom and delineate it as a sequential and hierarchical approach for all students. At the same time, we emphasize that classroom efforts to enhance equity of opportunity must be embedded within a comprehensive schoolwide system of student and learning supports (e.g., Center for Mental Health in Schools, 2011a).