REVIEW PAPER

COMORBIDITY OF AUTISM SPECTRUM DISORDERS AND EMOTIONAL/BEHAVIORAL DISORDERS: TOWARDS IMPROVED DIAGNOSTIC PROCEDURES, INSTRUCTIONAL PROGRAMMING, AND PERSONNEL PREPARATION

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ABSTRACT

An emotional/behavioral disorder is a mental health disability characterized by intensive internalized behaviors (e.g., anxiety, depression) and/or externalized behaviors (e.g., physical aggression, verbal aggression). Autism is a neurodevelopmental disorder characterized by deficits in social communication and repetitive behaviors (i.e., stereo type). Both of the aforementioned disorders are persistent and may result in a reduced quality of life. Currently, there is a substantial knowledge gap in regards to best practices for students who demonstrate the diagnostic criteria for both disorders concomitantly (i.e., comorbidity). The lack of knowledge regarding co-occurrence of autism and emotional/behavioral disorders in school-age children results in unreliable, invalid diagnostic practices, as well as ineffective instructional programming. The aim of this paper is to provide a review of the literature in order to close this knowledge gap. Thus, the purpose of this paper is to promote valid, reliable diagnostic procedures that lead to efficient individualized supports for children with both autism and an emotional/behavioral disorder. Results of the literature review are discussed in regards to comorbidity of the two disorders (e.g., overlap of phenotypic characteristics) and diagnostic assessment procedures proposed by researchers in the field. Implications for practice and future research are also discussed.

Keywords: Autism Spectrum Disorder, Emotional/Behavioral Disorder, Emotional Disturbance, Mental Health, Psychology, Diagnosis, Disability, Comorbidity, Neurodevelopment, Psychometrics.

INTRODUCTION

The Individuals with Disabilities Education Act (IDEA, 2004) defines an Emotional/Behavioral Disorder (EBD) as a condition in which a student shows at least one of the following five characteristics over a long period of time, to a marked degree, and that adversely affects his/her academic performance: (1) an inability to learn that cannot be the result of intellectual, sensory, or health difficulties, (2) an inability to create or sustain satisfactory interpersonal relationships with peers and teachers, (3) showing inappropriate behaviors or feelings under normal circumstances, (4) a general pervasive mood of unhappiness or depression, and (5) a tendency to develop physical symptoms and/or fears related to personal or school problems. Approximately 6% to 10% of school-age children are affected by an EBD (Hallahan, Kauffman, & Pullen, 2013).

The American Psychiatric Association (2013) defines Autism Spectrum Disorders (ASD) as a neurodevelopmental disorder that impairs social interactions and communications, and is characterized by repetitive interests/stereotypy. The current prevalence rate of autism is 1 in 68 students in the United States (Centers for Disease Control and Prevention, 2014).

Prevalence and Comorbidity

Much is known about both ASD and EBD individually, but relatively little is known about comorbidity of the two disabilities (i.e., the simultaneous presence of both ASD and EBD). Many studies have indicated an overlap in

defining diagnostic features of ASD and EBD as well as the complexity of discerning between the two disorders (Georgiades et al., 2011; Magyar & Pandolfi, 2012; Maskey, Warnell, Parr, Le Couteur, & McConachie, 2012). Magyar and Pandolfi (2012) indicated that, a high percentage of school-age children with ASD frequently demonstrate characteristics consistent with an EBD (e.g., anxiety, depression, inattention, irritability, hyperactivity, impulsivity, aggression, and defiance). Additionally, the author reported that, relatively little is known about comorbidity of the two disorders (e.g., best practices for identification/diagnosis, best practices for treatment, exact prevalence rates). The aforementioned knowledge gap results in unreliable, invalid diagnosis in school-age children. Furthermore, this lack of knowledge is problematic as both ASD and EBD are persistent and may result in a reduced quality of life if evidence-based practices are not deployed for affected learners by competently trained practitioners (Gadow, DeVincent, Pomeroy, & Azizian, 2004; Howlin Goode, Hutton, & Rutter, 2004; Magyar & Pandolfi, 2012).

Need and Rationale of the Study

The Individuals with Disabilities Education Act (IDEA, 2004) outlines thirteen separate disability categories. Thus, the machine of Special Education (SPED) operates via a categorical engine. The debate concerning the ethics/logistics of a categorical approach to SPED is not the intent of this paper; yet, the fact remains that diagnostic practices and instructional programming inherent to SPED are largely driven by a categorical methodology (Caffrey & Fuchs, 2007; Ysseldyke & Marston, 1999). That is, the specific disability label assigned to the struggling learners may influence where that student will be educated (i.e., the continuum of services), what specific goals and objectives will be targeted in his/her Individualized Education Program, and which school personnel will provide instruction and support to that student.

Given the categorical approach to SPED, designing effective instructional programming for students with comorbid ASD and EBD can be complicated. Often, the Educational services for learners with ASD differ noticeably from the supports provided to learners with EBD. For students with ASD, effective practitioners utilize particular evidence-based interventions and supports such as: Visual support systems, Augmentative and Alternative communication (e.g., PECS, speech generating devices), ensuring predictability in routine, structured work systems, and pivotal response training (Breitenbach, Armstrong, & Bryson, 2013; Lovannone, Dunlap, Huber, & Kincaid, 2003; Simpson, 2005). Likewise, students with EBD often require unique interventions and supports such as: Social skills training, group-oriented contingencies, private areas for independent work or breaks, direct instruction, and self-monitoring (Harrison, Bunford, Evans, & Owens, 2013; Landrum, Tankersley, & Kauffman, 2003; Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005). In order to cultivate positive educational outcomes for those students with comorbid ASD and EBD, practitioners must be highly-trained to deploy each of the aforementioned interventions and support with efficacy. Additionally, those same practitioners must have a comprehensive knowledge of strategies applicable to serving students with both disorders such as: methods for teaching appropriate replacement behaviors (i.e., differential reinforcement), extinction, identifying functions of behavior, reduction of self-injurious behavior, modifying antecedents (i.e., environmental engineering), altering consequences of behavior, behavior specific praise, functional life skill training, and academic skill instruction. An important part of designing an effective instructional programming for students with comorbid ASD and EBD is early identification. These students must be accurately identified earlier, so that practitioners can design and deploy targeted interventions suited for the complex needs of those learners.

As stated earlier, little is known about best diagnostic practices and treatment regimens for students with comorbid ASD and EBD (Magyar & Pandolfi, 2012); therefore, the objective of this paper is to provide practitioners with a review of the literature that has targeted the following information:

(1) A description of characteristics (e.g., phenotypic overlap) of students with comorbid ASD and EBD, and

(2) Assessment procedures necessary to identify students with comorbid ASD and EBD.

Finally, this paper proposes a shift in the preparatory procedures of Post-Secondary institutions to ensure that, pre-professional SPED teachers receive extensive training in evidence-based practices for both students with ASD and students with EBD.

Literature Review

Very few publications in the literature base have targeted the topic of ASD and EBD comorbidity. What follows is a synthesis of 3 publications that specifically targeted the learner characteristics and diagnostic procedures for individuals with both the aforementioned disorders.

Maskey et al. (2012) examined parental reports on the frequency, type, and inter-relationships of Emotional and Behavioral problems in children with ASD (n = 863). Parents in the study were provided with a questionnaire that included information about their child's Diagnosis, language level, Educational level, Medical concerns, IQ, and Frequency ratings of 10 common comorbid behaviors (e.g., anxiety, aggression, hyperactivity). The study's results indicated that, 52.6% of children in the sample exhibited four or more of the problem behaviors frequently (occurring at least 3 times a week). After data analysis, the authors found that, the most frequent behavior problems were exhibited by children with lower language ability and who attended special schools. Older children (secondary level) demonstrated fewer problem behaviors, yet frequently experienced Anxiety and Phobias. The author reported that, the findings of the study suggested high rates of EBD and ASD comorbidity, which results in heightened levels of stress and reduced quality of life for these children and their families. In sum, the authors expressed an imperative need for effective and timely treatment to support children with co-occurring EBD and ASD as well as their families.

Georgiades et al. (2011) examined the phenotypic overlap between diagnostic features of EBD and ASD in a sample of pre-school children (n = 335). The following diagnostic instruments were used to examine potential comorbidity: Autism Diagnostic Interview-Revised, Child Behavior Checklist, Repetitive Behavior Scale-Revised, Vineland Adaptive Behavior Scales-2, Merrill-Palmer-Revised Scales of Development, Preschool Language Scale – 4th Edition, and Parent Stress Index-Short Form. Results from the study suggested that, young children with ASD demonstrated substantial overlap between the core diagnostic features and emotional/behavioral problems. Specifically, analysis of the data indicated elevated levels of withdrawal, inattentiveness, and emotional reactions in pre-schoolers with ASD. The authors indicated that, attempting to make a distinction between EBD and ASD in preschool children should be avoided. The authors defended this conclusion by stating that, based on substantial phenotypic overlap, it is difficult to determine if the measured behaviors are truly indicative of comorbidity or a manifested component of ASD. Georgiades et al. (2011) concluded by specifying the necessity for early interventions to improve outcomes for pre-schoolers with ASD/EBD, and to reduce associated parental stress.

Warber (2013) published an article on the website www.lovetoknow.com that examined both ASD and EBD. The article was intended to clarify the differences for parents of children with either disorder. The author stated that, confusion is often caused when school districts serve students with EBD and ASD in the same classroom. The article presented the Diagnostic and Statistical Manual –x (4th Edition) definitions for both disorders as well as associated criticisms (e.g., ambiguity). Warbler (2013) stated that, there are several differences including: ASD is a spectrum disorder, EBD does not include sensory problems, ASD may include physical health symptoms, EBD does not always include early childhood milestone delays, ASD is typically diagnosed early in childhood, and that individuals with EBD do not require strict routine like the people with ASD (this is an unsubstantiated claim). Despite the author's lack of person-first grammar (e.g., "autistic people"), the delineation of differences in EBD and ASD was primarily accurate. Warbler (2013) also indicated that, obtaining a correct diagnosis is often difficult as children with EBD and ASD commonly exhibit similar behavior, communication, and social interaction

difficulties. The author specified that, an inaccurate diagnosis is problematic as it can result in treatment difficulties. The article concluded by suggesting parents who suspect their child may be affected by both disorders seek a professional, accurate diagnosis immediately.

Implications for Practice

Based on the unique learning needs of students with comorbid ASD and EBD, it is imperative that, Diagnosticians and Educational Psychologists are trained thoroughly in administering Standardized assessments, and interpreting the respective data in order to make valid diagnoses. When students who demonstrate co-occurrence of the disorders are identified earlier, practitioners can begin designing the individually tailored instructional programs necessary to improve short-term learning objectives and long-term quality of life for those learners. Further, diagnosticians should stay informed and trained in the standardized use of specific assessments for diagnosing both EBD (e.g., Behavior Assessment System for Children (Third Edition), Behavioral and Emotional Rating Scale (Second Edition), Child Behavior Checklist) and ASD (Childhood Autism Rating Scale, Second Edition, Social Communication Questionnaire).

Magyar and Pandolfi (2012) proposed a prototypical Multi-Tiered Problem-Solving (MTPS) model for identifying the potential presence of a concomitant EBD in students with ASD. Additionally, the authors discussed the developing, implementing, and evaluating individualized support programs for those particular students. The first step of the proposed MTPS model involves selecting an assessment protocol and establishing the progress-monitoring procedures for identifying potential EBD/ASD comorbidity. After a child with ASD has been identified with behavioral concerns, baseline data for the assessment protocol would involve surveillance and a review of the student's historical records. The student would then be administered a battery of tests including a Cognitive assessment (e.g. Stanford-Binet Intelligence Scales, 5th edition), ASD Assessment (e.g., Social Communication Questionnaire), Language/Communication measures (e.g., Peabody Picture Vocabulary Test-4 and Social Skills Improvement System), Adaptive behavior measures (Vineland Adaptive Behavior Scales-2) and an Assessment of EBD symptoms (Child Behavior Checklist). Following the assessment battery, direct observation recording (i.e., Antecedent-Behavior-Consequence charts, Home-to-School Communication Notebook, and a Formal Functional Behavior Assessment) and curriculum-based measures are implemented for progress monitoring of the student's response to recommended interventions and supports. Frequency of progress monitoring recording is contingent upon the types of skills being taught (specific or broad/generalized).

Following the baseline data and the assessment protocol, the MTPS model incorporates a 3-tiered intervention protocol. Tier-1 supports the MTPS model including schedules/visual supports, universal design for learning, functional communication, and social skills training/supports. The second tier of the model utilizes the coping skills training, social problem-solving training, and self-regulation training. Tier-3 of the mode involves an individualized behavior support plan, EBD services, and wraparound services. The student's responses to the targeted interventions are documented through the progress monitoring procedures established from the assessment protocol.

Magyar and Pandolfi (2012) explained that, an integral aspect of the proposed MTPS model involves professional development for all adults/staff involved in the child's educational programming, as well as monitoring the implementation of interventions. For an example, the authors expressed the necessity of these components: a multi disciplinary team, consultation of best practices regarding targeted interventions, administrative support, and data logs to assess professional adherence to the problem-solving model. Magyar and Pandolfi (2012) emphasized that, conducting program evaluation and professional monitoring would support the model's integrity and facilitate positive results for the involved student.

Finally, post-secondary institutions must make a necessary shift in preparatory procedures to ensure pre-professional teachers receive extensive training in

evidence-based practices for both students with ASD and students with EBD. In order to create highly competent practitioners with the skill sets to serve this unique population of learners, post-secondary institutions should embed ASD content (e.g., characteristics, assessment procedures, instructional methods) within the course sequence of programs that emphasize expertise in high-incidence disabilities (e.g., EBD, specific learning disabilities, attention deficit hyperactivity disorder). Given the increase in the prevalence of autism over the past decade, training in specific instructional methods for students with ASD should be viewed as a pre-requisite for all professional SPED practitioners. Likewise, Post Secondary institutions should embed specialized content targeting best practices for students with EBD within the course sequence of programs that emphasize training in autism and other developmental disabilities.

Implications for Future Research

Several evident paucities became apparent during the examination of the few empirical studies that have targeted diagnostic and instructional practices for students with comorbid ASD and EBD. First, future research should target specific batteries of standardized assessments that should be used by the practitioners to reliably identify the students with concomitant ASD and EBD. That is, what particular sequence and configuration of standardized assessments can be used in conjunction to accurately identify students with both disorders? Second, more research should be conducted on best practices associated with academic, functional, and social skill development for students with both ASD and EBD. Specifically, researchers should seek to identify particular treatment regimens that can be used to address the idiosyncratic learning needs of this unique population of learners. Given the contemporary emphasis on the Response to Intervention System, future research could expand the work of Magyar and Pandolfi (2012) by examining the interventions for these students using a multi-tiered model of support.

Conclusion

Based on the discussion of peer-reviewed literature, the complex issue of ASD and EBD comorbidity is apparent. Minimal research has been conducted on the complex needs of students with comorbid ASD and EBD. Thus, further research in the aforementioned area is warranted in order to reduce the stress of the families of children with ASD and EBD comorbidity, and to enhance the quality of life for those children. Based on these findings, future research should focus on valid, reliable eligibility assessment, best practices of implementing and monitoring individualized interventions, and professional development for all individuals involved in planning and implementing supports.

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