The American Psychiatric Association’s recommendation to delete (remove) Asperger’s disorder as a separate diagnostic category from the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) has been widely publicized [1-3]. Specifically, DSM-5 Work Group members propose a new category of “autism spectrum disorder”, which subsumes the current diagnoses of autistic disorder (autism), Asperger’s disorder, childhood disintegrative disorder, and Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS). This new category reflects members’ conclusion that “a single spectrum disorder” better describes our current understanding about the pathology and clinical presentation of the neurodevelopmental disorders.

An important feature of the proposed criteria for Autism Spectrum Disorder (ASD) is a change from three (autistic triad) to two domains; “social/communication deficits” and “fixed and repetitive pattern of behaviors”. Several social/communication criteria were merged to clarify diagnostic requirements and reflect research indicating that deficits in communication are “inseparable and more accurately considered as a single set of symptoms…”. Work Group members commented that language deficits are neither universal in ASD, nor should they be considered as a defining feature of the diagnosis. Another significant revision in the proposed criteria involves a change in the requirement that “delays or abnormal functioning in at least one of the three core developmental areas be present by the age of three”. The criteria would now state that although an autism spectrum disorder must be present from infancy or early childhood, it may not be identified until later in the child’s development.

### DSM-IV Criteria in Practice

Problems in applying the current DSM criteria were a key consideration in the Work Group’s recommendation to delete Asperger’s disorder as a separate diagnostic entity. Numerous studies indicate that it is difficult to reliably distinguish between Asperger syndrome, autism, and other disorders on the spectrum in clinical practice [4-11]. For example, children with autism who develop proficient language have significant “impairment” in social-communication and Restricted and (social) language and social skills are the same for both groups. Another significant feature of the proposed criteria for Autism Spectrum Disorder (ASD) is a change from three (autistic triad) to two domains; “social/communication deficits” and “fixed and repetitive pattern of behaviors”. Several social/communication criteria were merged to clarify diagnostic requirements and reflect research indicating that deficits in communication are “inseparable and more accurately considered as a single set of symptoms…”. Work Group members commented that language deficits are neither universal in ASD, nor should they be considered as a defining feature of the diagnosis. Another significant revision in the proposed criteria involves a change in the requirement that “delays or abnormal functioning in at least one of the three core developmental areas be present by the age of three”. The criteria would now state that although an autism spectrum disorder must be present from infancy or early childhood, it may not be identified until later in the child’s development.

Because of the difficulty in applying the criteria, there is little agreement in how Asperger’s disorder is used in practitioner and research. For example, Williams et al. [18] conducted a survey of 466 professionals reporting on 348 relevant cases, and found that 44% of children diagnosed with Asperger, PDD-NOS, atypical autism, or other ASD label actually met the criteria for Autistic Disorder. Similarly, Lord et al. [19] found in a multisite study involving 2,100 children and youth between ages four and 18 in 12 North American university-based centers that although diagnostic test scores were similar, diagnoses of specific categories of autism spectrum disorder varied dramatically from site to site across the country. For example, clinicians at one site gave participants only a diagnosis of autistic disorder, while clinicians at other sites gave a diagnosis of autism to less than half of the participants. The proportion of individuals receiving a diagnosis of Asperger syndrome ranged from zero to nearly 21 percent across sites. The findings of these studies support the recommendation for a general category of autism spectrum disorder, rather than attempting to distinguish between specific disorders.

### Treatment and Outcome

Another important consideration in the DSM proposal was response to treatment. Intervention research cannot predict, at the present time, which particular intervention approach works best with which individual. No single approach, intervention strategy, or treatment is effective for all persons with ASD, and not everyone will receive the same level of benefit. Likewise, data is not available on the differential responsiveness of children with Asperger’s disorder and High-functioning Autism (HFA) to specific interventions [20]. There are no empirical studies demonstrating the need for different treatments or different responses to the same treatment, and in clinical practice the same interventions are typically offered for both autism and Asperger’s disorder [21]. Treatments for impairments in pragmatic (social) language and social skills are the same for both groups.

### Application of the New Criteria

The objective of the draft criteria is that every individual who has significant “impairment” in social-communication and Restricted and Repetitive Behavior or Interests (RRBI) should meet the diagnostic criteria for autism spectrum disorder. Language impairment/delay is not a necessary criterion for diagnosis of ASD. Therefore anyone who demonstrates severe and sustained impairments in social skills and restricted, repetitive patterns of behavior, interests, or activities in the presence of generally age-appropriate language acquisition and cognitive functioning, who might previously have been given a diagnosis of Asperger’s disorder, would now meet the criteria for the new category of ASD. The draft criteria would also feature dimensions of severity that include current levels of language and intellectual functioning. Additionally, the Work Group intends to provide detailed symptom examples suitable for all ages and language levels, so that ASD will not be overlooked in persons of average or superior IQ who are experiencing “clinical” levels of difficulty.

It’s important to remember that in the DSM, a mental disorder is conceptualized as a clinically important collection of behavioral and psychological symptoms that causes an individual distress, disability or impairment. While use of the term Asperger’s disorder may be close...
to Hans Asperger's reference to a personality "type", it will be outside the scope of DSM-5, which explicitly concerns clinically significant and impairing mental disorders. Nevertheless, there will continue to be individuals who present with subclinical features of Asperger's disorder or ASD who have not experienced major social difficulties and clinical impairment in everyday life [22]. In this regard, the term "Asperger-type" may be useful to clinicians when describing a constellation of features associated with social/communication difficulties and repetitive/restricted behavior and interests that do not meet the DSM-5 criteria set for ASD.

Conclusion
In conclusion, the DSM-V Work Group members’ proposal of a new category, "autism spectrum disorder", which subsumes the current diagnoses of autistic disorder, Asperger's disorder, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified (PDD-NOS), better describes our current understanding about the clinical presentation and course of the neurodevelopmental disorders. Conceptualizing autism as a spectrum condition rather than a categorical diagnostic entity is in keeping with the extant research. The proposal to delete Asperger's disorder as a "distinct" clinical entity from the DSM is also in keeping with Lorna Wing's initial opinion that Asperger's disorder was part of a spectrum of conditions and that there were no clear boundaries separating it from other autistic disorders [23].

From a practice perspective, this single category is consistent with the growing consensus among practitioners that the differences between the higher functioning subtypes of autism are not particularly useful in terms of either intervention planning or outcome. Research and clinical experience suggest that there is no clear evidence that Asperger's disorder and high-functioning autism are different disorders. Their similarities are greater than their differences. As Gillberg [24] notes the terms, Asperger syndrome and high-functioning autism are more likely "synonyms" than labels for different disorders. Lord et al. also comments that although there has been much controversy about whether there should be separate diagnoses, "Most of the research has suggested that Asperger syndrome really isn't different from other autism spectrum disorders". The take-home message is that there really should be just a general category of autism spectrum disorder, and then clinicians should be able to describe a child's severity on these separate dimensions. Unfortunately, many individuals may have been advised (or assumed) that a diagnosis of Asperger's disorder was separate and distinct from Autistic disorder and that intervention/treatment, course, and outcome were clinically different for each disorder. While including Asperger's Disorder under the proposed category of “autism spectrum disorder” may well require a period of transition and adjustment, the proposed "dimensional" approach to diagnosis will likely result in more effective identification, treatment, and research for individuals on the spectrum.

A more detailed summary and discussion of the proposed draft revisions to DSM disorders and criteria are available from http://www.dsm5.org

References
1. American Psychiatric Association (1994) Diagnostic and Statistical Manual of Mental Disorders: DSM-IV. TM. Washington, DC.
2. American Psychiatric Association (2000) Diagnostic and Statistical Manual of Mental Disorders: DSM-IV-TR® (4th edn) American Psychiatric Pub, Virginia.
3. American Psychiatric Association (2011) DSM-5 development. A 09 Autism Spectrum Disorder.
4. Atwood T (2006) The complete guide to Asperger’s syndrome. Jessica Kingsley Pub, London.
5. Macintosh K, Dissanayake C (2006) Social skills and problem behaviours in school aged children with high-functioning autism and Asperger's disorder. J Autism Dev Disord 36: 1065-1076.
6. Leekam S, Libby S, Wing L, Gould J, Gillberg C (2000) Comparison of ICD-10 and Gillberg’s criteria for Asperger syndrome. Autism 14: 11-28.
7. M. Prior (2003) Learning and behavior problems in Asperger syndrome. Guilford Press, New York.
8. Mayes SD, Calhoun SL, Crites DL (2001) Does DSM-IV Asperger's disorder exist? J Abnorm Child Psychol 29: 263-271.
9. Miller JN, Ozonoff S (2000) The external validity of Asperger disorder: Lack of evidence from the domain of neuropsychology. J Abnorm Psychol 109: 227-238.
10. Ozonoff S, Dawson G, McPartland J (2002) A parent’s guide to Asperger syndrome and high-functioning autism: How to meet the challenges and help your child to thrive. Guilford Press, New York.
11. Witwer A N, Lecavalier L (2008) Validity of autism spectrum disorder subtypes. J Autism Dev Disord 38: 1611-1624.
12. Szatmari P, Bryson S, Duku E, Vaccarella L, Zwaigenbaum L, et al. (2009) Similar developmental trajectories in autism and Asperger syndrome: from early childhood to adolescence. J Child Psychol Psychiatry 50: 1459-1467.
13. Howlin P (2003) Outcome in high-functioning adults with autism with and without early language delays: Implications for the differentiation between autism and Asperger syndrome. J Autism Dev Disord 33: 3-13.
14. Szatmari P, Bryson SE, Steiner DL, Wilson F, Archer L, et al. (2000) Two year outcome of preschool children with autism or Asperger’s syndrome. Am J Psychiatry 157: 1980-1987.
15. Macintosh KE, Dissanayake C (2004) Annotation: The similarities and differences between autistic disorder and Asperger’s disorder: A review of the empirical evidence. J Child Psychol Psychiatry 45: 421-434.
16. Eisenmager R, Prior M, Leekam S, Wing L, Ong B, et al. (1998) Delayed Language Onset as a Predictor of Clinical Symptoms in Pervasive Developmental Disorders. J Autism Dev Disord 28: 527-533.
17. Ozonoff S, South M, Miller J N (2000) DSM-IV-defined Asperger syndrome: Cognitive, behavioral and early history differences from high-functioning autism. Autism 4: 29-46.
18. Williams K, Tuck M, Helmer M, Bartak L, Mellis C, et al. (2008) Diagnostic labelling of autism spectrum disorders in NSW. J Paediatr Child Health 44: 105-113.
19. Lord C, Petkova E, Hus V, Gan W, Lu F, et al. (2012) A multisite study of the clinical differentiation of different autism spectrum disorders. Arch Gen Psychiatry 3: 306-313.
20. Carpenter LA, Soorya L, Halpern D (2009) Asperger’s syndrome and high-functioning autism. Pediatr Ann 38: 30-35.
21. Wilkinson L A (2010) A best practice guide to assessment and intervention for Autism and Asperger syndrome in schools. Jessica Kingsley Pub, London.
22. Wilkinson L A (2008) Adults with Asperger syndrome: A childhood disorder grows up. The Psychologist 21: 768-771.
23. Volkmar FR, Paul R, Klein A, Cohen DJ (2005) Handbook of Autism and Pervasive Developmental Disorders, Diagnosis, Development, Neuropsychology, and Behavior (3rd edn) John Wiley, New York.
24. Gillberg C (2001) Asperger's syndrome and high functioning autism: Shared deficits or different Disorders? Journal of Developmental and Learning Disorders 5: 79-94.