

## Title: European 17 countries consensus endorses more approaches to APD than reported in Wilson, 2018

### Abstract

The interpretation in Wilson (2018) of different position statements and/or guidelines on APD throughout the world is both interesting and useful. This letter to the editor clarifies that the recent European APD consensus is broader than interpreted. Specifically, it endorses the clinical entity of APD (implemented in ICD-11 Beta version), encloses International Bureau for Audiophonologie and Danish Medical Audiological Society's guidelines and does not propose that APD is primarily a deficit of auditory attention. Aspects of both the psychosocial and the language learning approach are acknowledged in the European consensus paper. Finally, we are pleased that the diagnostic criteria proposed in Wilson (2018) are mostly in agreement with those in the European Consensus paper, but further developed, in that they include aspects of the individual's circumstances or environment that may affect the clinical presentation, along the lines of the International Classification of Functioning, Disability and Health, and in that they explicitly state that APD is a spectrum disorder.

It was a pleasure reading Wilson's paper: "Evolving the concept of APD" (2018) insightful article on different approaches to APD set to promote understanding of the disorder. The interpretation of different position statements and/or guidelines on APD throughout the world is both interesting and useful. We would like to clarify that the European conceptualisation perspective of this disorder (Iliadou et al, 2017) endorses and

**Table 1.** Eight approaches to CAPD and how these approaches are favoured in position statements and/or guidelines on CAPD from around the world.

<i>Approach to CAPD</i>	<i>Audiological</i>	<i>Psycho-educational</i>	<i>Language and learning</i>	<i>Modality specificity</i>	<i>Auditory attention</i>	<i>Hierarchical</i>	<i>Clinical entities</i>	<i>CNS networks</i>
<i>Emphasis</i>	<i>Site(s)-of-lesion/dysfunction in CANS</i>	<i>Deficit(s) in primary auditory abilities</i>	<i>CAPs required for language development and learning</i>	<i>CAPD being specific to the auditory modality</i>	<i>CAPD primarily being a deficit in auditory attention</i>	<i>Hierarchical assessment of listening difficulties</i>	<i>Identifying CAPDs as clinical entities</i>	<i>CANS as a distributed, but integrated, circuit</i>
USA <sup>a</sup>	//	//	/	/	-	-	-	/
Germany <sup>b</sup>	//	//	/	/	-	-	-	/
Canada <sup>c</sup>	/	//	/	/	-	-	-	/
Australia <sup>d</sup>	/	/	/	/	-	//	-	/
Britain <sup>e</sup>	/	/	/	-	//	//	-	/
New Zealand <sup>f</sup>	/	//	/	/	-	/	-	/
Netherlands <sup>g</sup>	-	-	-	-	-	/	-	-
Europe <sup>h</sup>	//	-	-	-	/	-	-	/

//: explicitly favoured; /: partially favoured; <sup>a</sup>ASHA (2005), AAA (2010), ICD (2016); <sup>b</sup>Nickisch et al. (2007); <sup>c</sup>CISG-SLPA (2012); <sup>d</sup>Dillon and Cameron (2015); <sup>e</sup>BSA (Forthcoming); <sup>f</sup>Keith et al. (Forthcoming); <sup>g</sup>De Wit, Neijenhuis, and Luinge (2017); <sup>h</sup>Iliadou et al. (2017).

attempts to synthesise more approaches than have been reported in your paper.

	<b>Audiological</b>	<b>Psycho-educational</b>	<b>Language and Learning</b>	<b>Modality specificity</b>	<b>Auditory attention</b>	<b>Hierarchical</b>	<b>Clinical entities</b>	<b>CNS networks</b>
<b>Europe</b>	//	//	//	/	-	-	//	/

This table better depicts the European consensus on APD (Iliadou et al, 2017) as opposed to how it was included in Wilson, 2018.

Firstly APD is indexed as a clinical entity both in the (American version) ICD-10 and the forthcoming ICD-11 Beta version. The APD classification in the later version has been proposed and refined by European and international scientists around the world, who have seconded the original proposal. We thus anticipate a geographically broader adoption of the ICD code for APD than the USA when the ICD-11 Beta version becomes live. We hope that this will in turn lead to an increased availability of APD testing for the affected individuals and better expertise regarding APD within clinical audiological setups, thus addressing two major current challenges for the field of APD, as discussed in our paper.

Secondly, we would like to point out that our European consensus was reached by clinicians and researchers from 17 countries (Greece, Germany, Malta, Denmark, Belgium, Poland, France, United Kingdom, Cyprus, Italy, Latvia, Spain, Croatia, Turkey, Switzerland, Norway, Portugal) and included some additional national European guidelines to those quoted in your paper. These are: a. International Bureau for Audiophonologie. (2007). Available from: <https://www.biap.org/en/recommandations/recommendations/tc-30-central-auditory-processes-cap>, b. Danish Medical Audiological Society. (2014). Available from: <http://dmasaud.dk/onewebmedia/DSOHH-KKR-APD.pdf>.

Thirdly, we would like to note that the European consensus incorporates the auditory inattention related symptom(s) in its definition of APD but does not propose that APD is primarily a deficit of auditory attention.

Fourth, aspects of both the psychosocial and the language learning approach are acknowledged in the European consensus paper both in table 2 and as described at the ending of the first paragraph of the introduction: "APD may have similar detrimental effects on the affected individual, with low esteem/anxiety, anxiety, and depression and symptoms in developmental APD, which may persist in adulthood. These may burden community inclusion while interfering with communicational, social, emotional, and academic-work aspects of life. Academic skills affected are mostly in higher-order language like reading and spelling. External factors contributing to negative psychosocial well-being in children with APD are environmentally based issues and support dissatisfaction."

Finally, we are pleased that the diagnostic criteria proposed in Wilson (2018) are mostly in agreement with those in the European Consensus paper, but further developed, in that they include aspects of the individual's circumstances or environment that may affect the clinical presentation, along the lines of the International Classification of Functioning, Disability and Health, and in that they explicitly state that APD is a spectrum disorder.

#### References:

1. Wayne J. Wilson (2018): Evolving the concept of APD, *International Journal of Audiology*, DOI: 10.1080/14992027.2017.1409438
2. Iliadou V, Ptok M, Grech H, Pedersen ER, Brechmann A, Deggouj N, Kiese-Himmel C, Sliwińska-Kowalska M, Nickisch A, Demanez L, Veuillet E, Thai-Van H, Sirimanna T, Callimachou M, Santarelli R, Kuske S, Barajas J, Hedjever M, Konukseven O, Veraguth D, Stokkerei Mattsson T, Martins JH and Bamiou D-E (2017) A European Perspective on Auditory Processing Disorder-Current Knowledge and Future Research Focus. *Front. Neurol.* 8:622. doi: 10.3389/fneur.2017.00622
3. World Health Organization. *International Classification of Functioning, Disability and Health (ICF)* Geneva: World Health Organization; 2001.