Considerations Related to Diagnostic Criteria of Autism Spectrum Disorder

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Abstract

From theoretical neuropsychological perspective, functional aspects it defines people with Autism Spectrum Disorder (ASD) are well explained by models of information processing, which are conceptually based on human actions of activation inhibition process behavioural continuum, both from context and from information available internally. This process is carried out through an interconceptual relational synaptic cognitive activity, in which the incoming information, which accesses to sensory system, must be coded by working memory, which will decide if incoming information relates well with information previously available in memory and, then, will become part of permanent memory or, inversely, it´ll be lost *(Cohen, et al. [1])*. However, it´s precisely at semantic attribution level of meanings and in global analysis of perceived contexts, where people with ASD show important specificities and deficits, hence they need mediated help, both for global understanding of new information, as for creation of links to facilitate relationships between input and output information *(Simmons et al. [2])*. In this sense, semantic specificity of information processing in people with ASD is basic criterion of their differential diagnosis process. Indeed, in study by our research group, for a total N=39 participants, distributed in 2 groups, 1 experimental group (n=17), which has been applied a specific program formed by semantic components and their relational networks, significantly improved the semantic competence conceptual (semantic variable) regarding to 1 control group (n=22), which followed application of standard programs, verified from non-parametric comparison test of Mann-Whithey's U (sig=0.00).

In fact, these results had been corroborated by *(Ojea [3])* studies which indicate that when an experimental program is carried out to facilitate links and semantic networks between incoming information and previous information it significantly improves comprehensive analysis of information, as well as coding, also improving recovery processes. Therefore, when 3 experimental groups of participants with ASD (N=18) were formed, proportionally distributed, they´re applied to different programs, the experimental group *(Cohen, et al. [1])*, which a program that facilitated semantic networks was applied, improved significantly regarding to the others 2 experimental groups (ANOVE Comparative Test Between Subjects: Sig=0.00), which demonstrates the influence of relational components on information processing improvement.

This Analysis shows the importance of semantic specificity as a basic criterial element for configuration of ASD concept. For this reason, a recent research study *(Ojea et al. [4])* demonstrates this specificity.In this analysis it was applied to 30 students with ASD, who were distributed in 2 groups, 1 experimental group, formed by 18 individuals with ASD and 1 control group, formed by another 20 individuals without ASD, and clearly differentiated scores were found between both groups for the 6 studied sub-dimensions of Semantic Integration Scale, which define the semantic particularities process that make up the disorder:

a) Deficits to conceptual units understanding (p=0.01)
b) Deficits to significant reconstruction (p=0.01)
c) Deficits to conceptual- categories hierarchy (p=0.01)
d) Deficits to inter-conceptual relations development (nodes) (p=0.00)
e) Deficits to setting inter-categories relationships (p= 0.00)
f) Deficits to information remind (p=0.00)

Conclusion

In conclusion, although autism spectrum concept already includes semantic deficits as basis for explanatory analysis of factual behaviors indicated in the 2 dimensions of current Classification:
a) Communication and social interaction.
b) Restrictive and repetitive behaviors, it is necessary advance in consideration of a third dimension.
c) Semantic dimension, as specific criterion clearly objectified and properly delimited within diagnostic Classification of ASD.

Likewise, needs joined within this new dimension are adjusted to continuum of 3 intensity levels:
a) Analysis with meaning of concepts, with difficulties for their categorization. Limitations to set up inter-categories

relationships.

b)   Concepts´ partial analysis, with a tendency to establish meanings.

c)   Analysis of concept parts.

References

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