

# Evolution of Cognitive and Socio-Emotional Skills in an older Woman with Autism Spectrum Disorders and Severe Intellectual Disability Receiving Individualized Support Based on the CHIPPS Program: A Clinical Case Report

Jean-Louis Adrien <sup>1\*</sup>, Célia Nézereau <sup>1,2</sup>, Marion Wolff <sup>3</sup>, Marie-Davia Wardi <sup>2</sup>, Maria Pilar Gattegno <sup>1,4</sup>, Romuald Blanc <sup>1,5</sup>

<sup>1</sup> Laboratory of Psychopathology and Health Processes (UR4057), Institute of Psychology, Université Paris Cité, Paris, France.

<sup>2</sup> Office of Psychology ESPAS-Sup, 97, Avenue Charles de Gaulle, 92200 Neuilly sur Seine.

<sup>3</sup> Espace-Tests PEPSS (Plateforme d'Évaluation, de Prototypage et de tests d'usages). ESTIA-TECH, 97, Allée Théodore Monod – Technopole Izarbel – 64 210 BIDART.

<sup>4</sup> Office of Psychology ESPAS-Sup, 12, Avenue du 8 Mai 1945, 33110 Bordeaux-Le Bouscat.

<sup>5</sup> Research unit UMR 1253, iBrain, Université de Tours, INSERM Group “Autism”, Tours, France.

**\*Corresponding Author:** Jean-Louis Adrien, Laboratory of Psychopathology and Health Processes (UR4057), Institute of Psychology, Université Paris Cité, Paris, France.

**Received date:** May 16, 2025; **Accepted date:** May 29, 2025; **Published date:** November 24, 2025

**Citation:** Jean L. Adrien, Célia Nézereau, Marion Wolff, Marie D. Wardi, Maria P. Gattegno, et al., (2025), Evolution of Cognitive and Socio-Emotional Skills in an older Woman with Autism Spectrum Disorders and Severe Intellectual Disability Receiving Individualized Support Based on the CHIPPS Program: A Clinical Case Report, *J. Clinical Case Reports and Studies*, 6(8); DOI:10.31579/2690-8808/256

**Copyright:** ©, 2025, Jean-Louis Adrien. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

## Abstract

Older adults with autism spectrum disorders (ASD) and severe intellectual disability (ID) require constant and regularly updated relational, social, and healthy support. This paper presents the evolution of cognitive and socio-emotional abilities in a 69-year-old female patient with this dual diagnosis (associated with epilepsy) who benefited from a personalized psycho-educative program.

The program, which includes cognitive and social remediation sessions and daily individual coaching to promote personal autonomy, was implemented daily for two years (15 hours per week). Cognitive and socio-emotional development was assessed using the Social Cognitive Evaluation Battery adapted for Adults (SCEB-A) at intervention commencement (Time 1) and completion (Time 2; 24 months).

An increase in abilities was noted in all cognitive and socio-emotional domains.

Older individuals with ASD, severe ID, and epilepsy can make progress in cognitive and socio-emotional functioning through the regular application of a psycho-educative program. However, this study is limited due to the inclusion of a single participant, and thus, the results cannot be generalized to older adults with ASD and severe ID.

**Key Words:** adults with ASD and severe ID; evolution of cognitive and socio-emotional abilities; social cognitive evaluation battery for adults (SCEB-A); cognitive and social remediation; personalized support

## 1. Introduction

Autism spectrum disorder (ASD) is considered a lifelong neuro-developmental disorder, the severity of which is augmented by intellectual disability [1]; it currently represents a significant public health issue. ASD can be associated with several mental, somatic, and neurological comorbidities [2,3], including epilepsy [4], of which the median period prevalence in individuals with autism is estimated to be between 12.1% and

17.2% [5]. This co-occurring condition necessitates adapted and personalized anti-epileptic treatments [6]. Additionally, for those with multiple diagnoses, whose autism is categorized as “profound” [7,8], both psycho-educational and behavioral supports and medical treatments are required for long-term care and quality of life [9,10]. Thus, some adults—including older adults—require constant and regularly updated support in

all areas of relational and social life, autonomy, and health, as highlighted by Roestorf et al. [11]. However, prior literature indicates that behavioral and educative interventions in adults with ASD have received little academic attention in comparison to children [12] despite the increased life expectancy in Western societies and the increased prevalence of ASD [13].

Several studies on aging in ASD have shown the elevated risk of cognitive and neurological disorders [14-16]. However, to our knowledge, there has been no study focused on the cognitive and adaptive evolution of aging adults with ASD, severe ID, and neurological disorders who are receiving personalized support combined with medical treatment.

While many professionals consider that these individuals can no longer learn and progress, this case report highlights the evolution of cognitive and socio-emotional abilities in a senior female patient with ASD and severe ID associated with epilepsy. The patient benefited from an individualized psycho-educative program over a period of two years.

## 2. Case presentation

This study concerns a 69-year-old female who had been diagnosed with “psychotic disorders, schizophrenic reactions” at the age of 13 [17] and presented with epilepsy of unknown etiology at 66 years of age. Despite receiving an anti-epileptic treatment (Lactimal), the epilepsy had not yet stabilized. Since the age of 34, the patient has attended a medico-social establishment known as a Specialized Reception Home (SRH). As part of a research partnership between the SRH and a university, the patient was selected to be included in the study [18]. At the request of the patient’s legal guardian, an individualized support development program was delivered to the patient in the SRH over a period of two consecutive years from the commencement of the study. The legal guardian provided consent for the use of the retrospective data presented in this case report.

### 2.1 ASD and ID diagnosis process of the patient

The ASD diagnosis [19] was undertaken using the PDD-MRS (Pervasive Development Disorders-Mental Retardation), validated in a French clinical population [20]. The patient’s score was 13 (cut-off = 10). The CARS (Childhood Autism Rating Scale) [21] was used to determine the severity of the autistic symptomatology; the CARS score of 44.5 (cut-off = 30) indicated severe autism.

Given her very low cognitive level, the participant could not be assessed using standardized intelligence tests. As such, the level of ID was determined through a clinical assessment undertaken by clinicians who were well-acquainted with the patient and were able to rate the ability level in the following two domains: Social and Personal Autonomy and Communication [18]. The ID of the patient was classified as severe.

### 2.2 Assessment of cognitive and socio-emotional development

**2.2.1 The assessment of cognitive and socio-emotional development** was undertaken using the Socio-Emotional and Cognitive Battery (SCEB, [22]). Initially used specifically for children with ASD and other neurodevelopment disorders [23], the SCEB was recently adapted for use with adults (SCEB-A) whose development levels are below that of a 24-month-old [18]. The SCEB-A’s psychometric proprieties were recently shown of evidence [24]. This tool assesses 16 domains, which are classified into two main areas: cognitive (7 domains) and socio-emotional (9 domains). Each of these ability domains comprises several items hierarchized into four levels of development that correspond to age bands: level 1 = 4-8 months; level 2 = 8-12 months; level 3 = 12-18 months; and level 4 = 18-24 months. Level 0 was indicated when no items were passed at level 1. The patient’s cognitive and socio-emotional development assessment was performed by a psychologist trained in using SCEB-A (the second author of this paper).

#### 2.1.2. Rating of SCEB-A items from adult behaviors

In the standardized rating of SCEB-A [24], each behavior item was rated 0 when the adult did not perform the behavior, 1 when the adult performed it with gestural support and/or after a demonstration from the examiner, and 2 when the adult performed it alone with no assistance or demonstration. Two types of development profiles were determined from these ratings: “consolidated” (determined for each of the 16 domains as being the highest level for which all items were rated 2) and “achieved” (determined for each of these same domains as being the highest level in which at least one item had a score of 1). The difference or lag between the consolidated (e.g., level 1) and achieved (e.g., level 3) levels indicated that the individual had good acquisition and mastery of the behaviors expected for level 1 but had yet to master those of levels 2 and 3, despite being able to perform some of them with support, assistance, or demonstration. Levels 2 and 3 are considered to be consolidated when the individual exhibits all behaviors for the items without assistance or demonstration.

### 2.3 Program of individualized coaching: the CHIPPS program

Applied by a coach under the supervision of a psychologist [26], the psycho-educative intervention known as Coaching Home Intervention Progress Profession School® (CHIPPS) is an effective intervention program [27] designed to take place in naturalistic environments [28]. It is based on both behavioral and developmental psychological models [29] and includes all relevant recommendations from France’s High Authority for Health (HAS) relative to the support and autonomy of adults with ASD, by which it has been cited [30,31].

### 2.4 Content and description of the cognitive and socio-emotional remediation session

The remediation session comprised several learning exercises, which were chosen in alignment with the patient’s development profiles for the achieved and consolidated levels, as obtained during the first SCEB-A evaluation [26]. In each of the 16 domains, all behaviors that were not achieved (score 0) or only partially successful (score 1) were identified, and the proposed learning exercises corresponded to these behavioral items. For instance, during the SCEB-A evaluation, the patient took the styling brush and tried to style the doll’s hair but could not. The accompanying support consisted of helping the patient use the brush correctly to groom the doll by demonstrating the action and/or using the gestural aid of taking the patient’s hand in such a way as to invite them to style the doll’s hair. Once this gesture had been acquired, the patient was mobilized to style their own hair.

### 2.5 Data analysis

Increasing levels of consolidated development across all areas should show evidence of adult progress. To assess this progress, a Single Case Research (SCR) procedure [32,33] was implemented for the analysis of individual effects; this procedure is particularly suitable for small-sample studies. The method has been successfully applied in previous studies, particularly to validate the effects of different support programs for children with ASD [28]. The principle is based on the measurement of “*Nonoverlapping data*” collected in two distinct phases—Time 1 Level and Time 2 Level—which were combined to give the trend for the latter. This allows the undesirable positive trend of the first phase to be controlled. Firstly, the Nonoverlap of All Pairs (NAP) was calculated; this corresponded to the percentage of nonoverlapping points and was calculated by comparing the points of the second phase with those of the first phase. The higher the percentage, the less overlap there was between points, indicating an effect attributable to the program (0% to 30% = weak effect; 31% to 84% = moderate effect; ≥ 85% = significant effect). Secondly, the SCR procedure uses the *Tau-U* method, which can be defined as a derivation of *Kendall’s Tau* and the *Mann-Whitney U* non-parametric test (searching for differences between groups of data), as it also refers to the “S” statistics sampling distribution. The *Tau-U* calculator program indicates *Tau-U*, *Tau-U Standard Deviation* (SD), the *Z test* result, and its *p-value*.

2.6 Results

2.6.1 Cognitive area

Figure 1 reports the patient’s achieved and consolidated development level score profiles at Times 1 and 2 for the cognitive area. We noted an increase in achieved development level scores for two domains: “Schemata of relation to objects” and “Object permanence.” Consolidated level scores increased in

six domains—with the exception of the Means-Ends domain—and particularly in the domains of “Spatial relations” (an increase of four levels) and “Schemata of relation to objects” (an increase of three levels) (Table 1). While the slight increase in the mean achieved development level was not significant (mean differences = 0.29), the mean consolidated development level increased significantly (mean differences = 2) (Table 2).

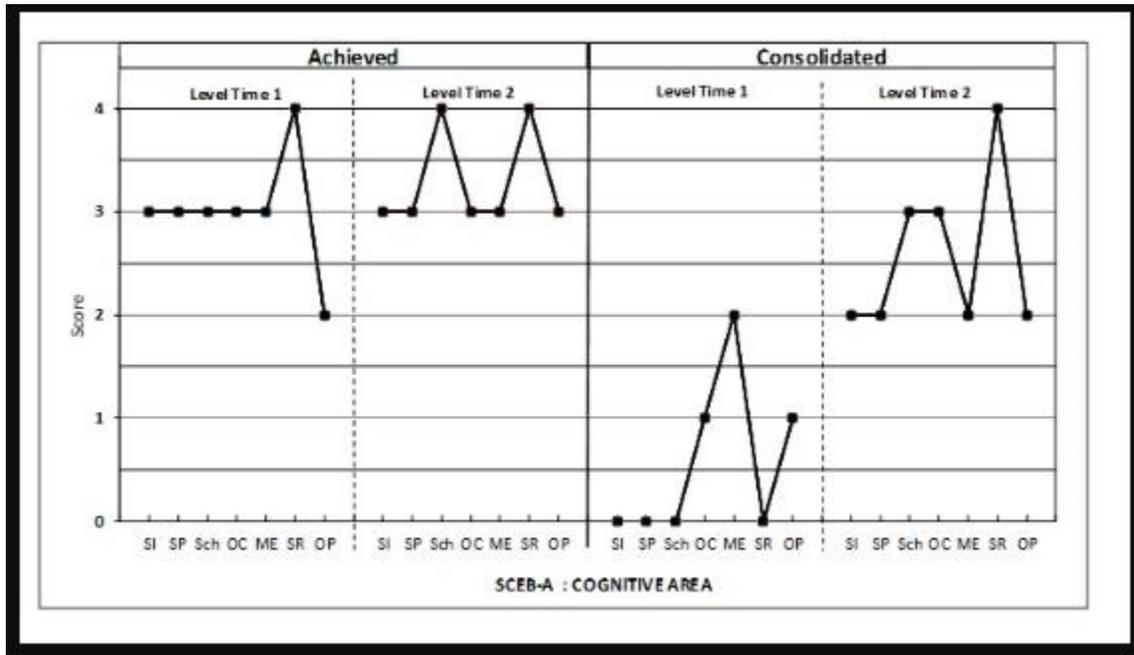


Figure 1: Profiles of the achieved and consolidated development levels at Times 1 and 2 for the cognitive domains: Self-Image (SI); Symbolic Play (SP); Object Relation Schemata (Sch); Operational Causality (OC); Means-End (ME); Spatial Relations (SR); and Object Permanence (OP).

Individual effects

	Achieved			Consolidated		
	LT1	LT2	LT2-LT1	LT1	LT2	LT2-LT1
SI	3	3	0	0	2	2
SP	3	3	0	0	2	2
Sch	3	4	1	0	3	3
OC	3	3	0	1	3	2
ME	3	3	0	2	2	0
SR	4	4	0	0	4	4
OP	2	3	1	1	2	1
Mean	3.00	3.29	0.29	0.57	2.57	2.00
SD	0.58	0.49	0.49	0.79	0.79	1.29

Table 1: Achieved and consolidated development level scores for cognitive domains (SI, ...) at Times 1 (LT1) and 2 (LT2); means and values of differences in means between Times 1 and 2 (LT1-LT2).

Cognitive Area	Tau <sub>novlap</sub>	SDTau	Z	P
Achieved	0.338	0.226	1.084	0.278
Consolidated	0.957	0.3194	2.874	0.004

Table 2: Results for Nonoverlap of All Pairs (NAP), Tau-U, Tau-U Standard Deviation (SD), Z test, and p-value

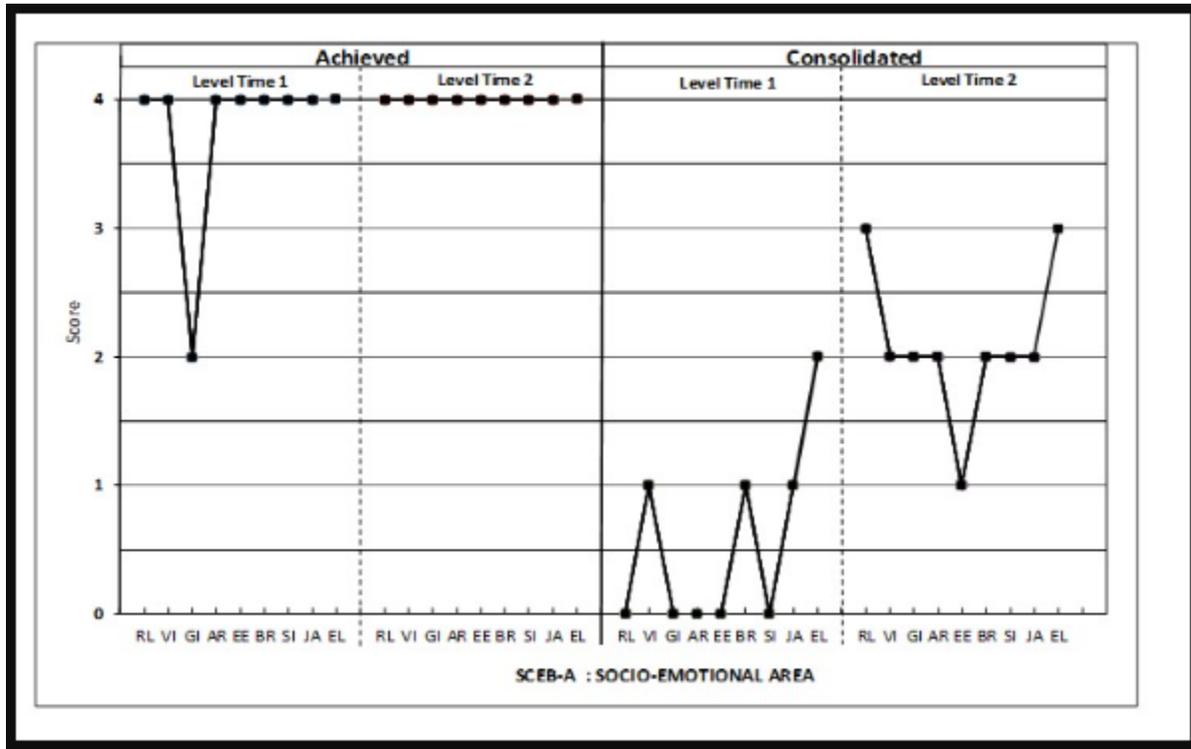
For the achieved development levels, the NAP rate was 62%, which corresponded to a moderate support effect; this effect was not significant. However, for the consolidated development levels, the NAP rate was 96%. As such, the effect of the CHIPPS program was shown to be efficient.

2.6.2 Socio-emotional area

Figure 2 represents the patient’s achieved and consolidated development levels profiles at Times 1 and 2 for the socio-emotional area. The evolution of the achieved development levels was noted in the only domain that was

not achieved at the maximal level score (Vocal Imitation). Meanwhile, the consolidated levels of all nine domains increased (Table 3), particularly in Receptive Language (an increase of three developmental levels). Thus,

while the slight increase in the mean achieved levels was not significant (mean differences = 0.73), the mean consolidated levels increased significantly (mean differences = 1.56) (Table 4).



**Figure 2:** Profiles of achieved and consolidated development levels at Times 1 and 2 for the socio-emotional domains: Receptive Language (RL); Vocal Imitation (VI); Gestural Imitation (GI); Affective Relation (AR); Emotional Expression (E); Behavior Regulation (BR); Social Interaction (SI); Joint Attention (JA); Expressive Language (EL).

**Individual effects**

.	Achieved			Consolidated		
	LT1	LT2	LT1-LT2	LT1	LT2	LT1-LT2
RL	4	4	0	0	3	3
VI	4	4	0	1	2	1
GI	2	4	2	0	2	2
AR	4	4	0	0	2	2
EE	4	4	0	0	1	1
BR	4	4	0	1	2	1
SI	4	4	0	0	2	2
JA	4	4	0	1	2	1
EL	4	4	0	2	3	1
Mean	3.78	4.00	0.22	0.56	2.11	1.56
SD	0.67	0.00	0.67	0.73	0.60	0.73

**Table 3:** Achieved and consolidated development level scores for socio-emotional domains (RL, ...) at Times 1 (LT1) and 2 (LT2); means and values of the differences between means at Times 1 and 2 (LT1-LT2).

Socio-Emotional Area	Tau <sub>novlap</sub>	SDTau	Z	p
Achieved	0.200	0.279	0.397	0.691
Consolidated	0.7451	0.280	2.516	<b>0.012</b>

**Table 4:** Results for: Nonoverlap of All Pairs (NAP), Tau-U, Tau-U Standard Deviation (SD), Z test, p-value

Effects similar to those of the cognitive area were observed for the socio-emotional area, with a significant effect on NAP data at 93%. Therefore, the CHIPPS program is considered to be efficient during the consolidation phases.

### 3. Discussion

This case report focused on the evolution of cognitive and socio-emotional abilities in a senior female who benefited from a two-year individualized support program. The increase in consolidated development levels indicates that the patient was able to learn different behaviors in all domains, including the cognitive domains of “Spatial relations” and “Schemata of relation to objects” and the socio-emotional domain of “Receptive language,” attesting to the mastery of higher developmental levels. The notable evolution in these areas demonstrates the patient learning to manipulate objects, such as fork and spoon for eating for example, and better understand others’ words during social interactions [34].

### 4. Conclusion

Aging does not prevent autistic adults with severe IDs from making progress. Although all development levels concerned behavioral acquisitions between 12 and 24 months of age and were minimal—highlighting the patient’s severe developmental delay—the progress in abilities identified in the patient may nevertheless be considered remarkable, despite the lack of generalizability, and showcase evidence of the possibilities in learning and cognitive and communicative evolution in severely handicapped adults [34].

### Acknowledgements

We thank the patient, a senior female adult with autism and severe intellectual disability and her sister. Moreover, we thank all the members of her medico-social services team who have a convention partnership with Université Paris Cité.

We thank the Fondation Perce-Neige for its logistic and financial support.

### Funding

Funds from Fondation Perce-Neige (Number H03R4057 - P5 Psycho - EA4057 – LPPS and from Faculty “Societies and Humanities” of the Université Paris Cité (*Budget Restreint, Impact Optimal* » ATRIUM S&H).

### Author Contributions Statement

Management of Medico-Social Service: JLA, CN and RB. Personal autonomy and behaviours observation assessments: CN and MDW. Developmental and quantitative clinical, developmental and diagnostic data collection: CN and MDW. Study design: JLA, CN, MPG, RB. Quantitative and qualitative data analysis: MW, JLA, CN, MDW, MPG and RB; Writing: JLA, CN, MW, MDW, MPG and RB.

All the authors have read and approved this final manuscript.

### Availability of data and materials

The data used and analysed during this study are available from the corresponding author on reasonable request.

### Ethics Statement

An information and consent form were given to the participant’s legal guardian. The study was carried out in accordance with official laws and standards of ethics, biomedical and clinical research in France. It received agreement from the research ethics committee of the University Paris Cité (N° 2021-42).

### Conflict of interest

The authors declare that the submitted work was carried out in the absence of any personal, professional or financial relationships and so, does not have any conflict of interest.

### References

1. Etyemez, S., Esler, A., Kini, A., Tsai, P.-C., DiRienzo, M., Maenner, M., & Lee, L. C. (2022). The role of intellectual disability with autism spectrum disorder and the documented cooccurring conditions: A population-based study. *Autism Research*, 15(12), 2399–2408.
2. Casanova, M. F., Casanova, E., Frye, R. E., & Gillberg, C. (2020). Editorial: Comorbidity and Autism Spectrum Disorders. *Frontiers in Psychiatry*, 11.
3. Mutluer, T., Aslan Genç, H., Özcan Morey, A., Yapıcı Eser, H., Ertinmaz, B., et. al., (2022). Population-based psychiatric comorbidity in children and adolescent with autism spectrum disorder: a meta-analysis. *Frontiers in Psychiatry*, 13.
4. Sundelin, H. E., Larsson, H., Lichtenstein, P., Almqvist, C., Hultman, C. M., Tomson, T., & Ludvigsson, J. F. (2016). Autism and epilepsy: A population-based nationwide cohort study. *Neurology*, 87(2), 192–197.
5. Pan, P.-Y., Bölte, S., Kaur, P., Jamil, S., & Jonsson, U. (2021). Neurological disorders in autism: A systematic review and meta-analysis. *Autism*, 25(3), 812–830.
6. Gundogdu, B. S., Gaitanis, J., Adams, J. B., Rossignol, D. A., & Frye, R. E. (2023). Age-related changes in epilepsy characteristics and response to antiepileptic treatment in autism spectrum disorders. *Journal of Personalized Medicine*, 13(7), Article 1167.
7. Lord, C., Charman, T., Havdahl, A., Carbone, P., Anagnostou, E., et. al., (2022). The Lancet Commission on the future of care and clinical research in autism. *Lancet*, 399(10321), 271–334.
8. Clarke, E. B., McCauley, J. B., Lutz, A., Gotelli, M., Sheinkopf, S. J., & Lord, C. (2024). Understanding profound autism: implications for stigma and supports. *Frontiers in Psychiatry*, 15, Article 1287096.
9. Mason, D., McConachie, H., Garland, D., Petrou, A., Rodgers, J., & Parr, J. R. (2018). Predictors of quality of life for autistic adults. *Autism Research*, 11(8), 1138–1147.
10. Moss, P., Mandy, W., & Howlin, P. (2017). Child and adult factors related to quality of life in adults with autism. *Journal of Autism and Developmental Disorders*, 47(6), 1830–1837.
11. Roestorf, A., Bowler, D. M., Deserno, M. K., Howlin, P., Klinger, L., McConachie, H., Parr, J. R., Powell, P., Van Heijst, B. F. C., & Geurts, H. M. (2019). “Older adults with ASD: The consequences of aging.” Insights from a series of special interest group meetings held at the International Society for Autism Research 2016-2017. *Research in Autism Spectrum Disorders*, 63, 3–12.
12. Edwards, T. L., Watkins, E. E., Lotfizadeh, A. D., & Poling, A. (2012). Intervention research to benefit people with autism: How old are the participants? *Research in Autism Spectrum Disorders*, 6(3), 996–999.
13. Brugha, T. S., Spiers, N., Bankart, J., Cooper, S. A., McManus, S., Scott, F. J., & Tyrer, F. (2016). Epidemiology of autism in

- adults across age groups and ability levels. *British Journal of Psychiatry*, 209(6), 498–503.
14. Oberman, L. M., & Pascual-Leone, A. (2014). Hyperplasticity in autism spectrum disorder confers protection from Alzheimer's disease. *Medical Hypotheses*, 83(3), 337–342.
  15. Powell, P. S., Klinger, L. G., & Klinger, M. R. (2017). Patterns of age-related cognitive differences in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 47, 3204–3219.
  16. Lever, A. G., & Geurts H. M. (2018). Is older age associated with higher self and other rated ASD characteristics? *Journal of Autism and Developmental Disorders*, 48, 2038–2051.
  17. American Psychiatric Association. (1952). Diagnostic and statistical manual of mental disorders. *American Psychiatric Association*.
  18. Adrien, J-L., Blanc, R., & Thiébaud, É. [on behalf of The Collaborative Group]. (2025). Profile and development of adaptive behavior in adults with autism spectrum disorder and severe intellectual disability. *Frontiers in Psychiatry*, 15, Article 1470466.
  19. American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th Ed.). *American Psychiatric Association*.
  20. Kraijer, D. W. (2018). PDD-MRS: Echelle d'évaluation des TSA chez les personnes avec déficience intellectuelle [Adaptation française by Bizet, E.] Hogrefe France.
  21. Schopler, E., Reichler, R., & Renner, B. (1988). The Childhood Autism Rating Scale (CARS). Western Psychological Services. [French adaptation by Rogé, B. (1989). Echelle d'évaluation de l'autisme infantile. Editions d'Application Psychotechnique (EAP)].
  22. Adrien, J-L. (2007). Batterie d'Evaluation Cognitive et Socio-émotionnelle (BECS). Manuel et protocoles [Socio-emotional and Cognitive Battery Evaluation (SCEB, Manual and protocols)]. Pearson France.
  23. Bernard Paulais, M-A, Mazetto, C., Thiébaud, E., Nassif, M. C., Costa Coelho de Souza, M. T., et. al., (2019). Heterogeneities in cognitive and socio-emotional development in children with autism spectrum disorder and severe Intellectual Disability as a comorbidity. *Frontiers in Psychiatry*, 10.
  24. Adrien, J-L., Thiébaud, É., & Blanc, R. (2025). Preliminary psychometric study of Socio-emotional and Cognitive Evaluations Battery for Adults (SCEB-A) with autism spectrum disorders and severe intellectual disability. *Global Journal of Intellectual and Developmental Disabilities* (in press).
  25. Thiébaud, E., Paulais, M-A., Blanc, R., Gattegno, M. P., and Adrien, J-L. (2022). Sensibilité développementale théorique et empirique des items de la BECS pour l'évaluation du développement psychologique de jeunes enfants au développement typique. [Theoretical and empirical developmental sensitivity of SCEB items for assessment of young typically developing children]. *Psychologie Française*, 67(1), 61–76.
  26. Gattegno, M. P. (2004). L'accompagnement scolaire et professionnel des personnes atteintes d'autisme [School and professional coaching of people with autism]. Approche Neuropsychologique des Apprentissages chez l'Enfant (ANAE), 74-75, 36–38.
  27. Wolff, M., Nézereau, C., Gattegno, M. P., Bernard Paulais, M-A., & Adrien, J-L. (2020). Contribution of Bayesian Inference and Single Case Research for validating the effects of support programs intended for children with autism spectrum disorder (ASD). *Psychology Research and Applications*, 2(3), 29–51.
  28. Schreibman, L., Dawson, G., Stahmer, A. C., Landa, R., Rogers, S. J., et. al., (2015). Naturalistic Developmental Behavioral Interventions: Empirically validated treatments for autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 45, 2411–2428.
  29. Gattegno, M. P. (2011). Le Programme IDDEES (CHIPPS program). In J-L Adrien & M.P. Gattegno (Eds.) L'autisme de l'enfant. Evaluations, Interventions et suivis (pp 167–179). Mardaga.
  30. Haute Autorité de Santé et ANESM (2011). Recommandations de bonne pratique. Autisme et autres troubles envahissants du développement: diagnostic et évaluation chez l'adulte. Saint-Denis, La Plaine.
  31. Haute Autorité de Santé et ANESM (2017). Trouble du spectre de l'autisme: interventions et parcours de vie de l'adulte. Argumentaire scientifique. Saint-Denis, La Plaine.
  32. Parker, R. I., Vannest, K. J., Davis, J. L., & Sauber, S. B. (2011). Combining nonoverlap and trend for single-case research: Tau-U. *Behavior Therapy*, 42, 284–299.
  33. Huskens, B., Verschuur, R., Gillesen, J., Didden, R., & Barakova, E. (2012). Promoting questions-asking in school-aged children with autism spectrum disorders: effectiveness of a robot intervention compared to a human-trainer intervention. *Journal of Developmental Neurorehabilitation*, 16(5), 345–356.
  34. Nézereau, N., Wardi, M-D., Wolff, M., Gattegno, M. P., Blanc, R., & Adrien, J-L. (2025). Evolution of personal autonomy behaviors in an elderly woman with ASD and severe intellectual disability receiving individualized support based on the CHIPPS program: A clinical case report. *International Journal of Developmental Disabilities* (in press).



This work is licensed under Creative Commons Attribution 4.0 License.

To Submit Your Article Click Here: **Submit Manuscript**

DOI: [10.31579/2690-8808/256](https://doi.org/10.31579/2690-8808/256)

**Ready to submit your research? Choose Auctores and benefit from:**

- fast, convenient online submission
- rigorous peer review by experienced research in your field
- rapid publication on acceptance
- authors retain copyrights
- unique DOI for all articles
- immediate, unrestricted online access

At Auctores, research is always in progress.

Learn more <https://auctoresonline.org/journals/journal-of-clinical-case-reports-and-studies>