

## S30C

**Comorbidités psychiatriques et somatiques du PTSD chez le sujet âgé**

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Le trouble de stress post-traumatique (TSPT) est un trouble sous-diagnostiqué chez le sujet âgé. La prévalence du TSPT est estimée à environ 2% dans cette population [1]. Il est très souvent associé à des comorbidités psychiatriques : au premier rang desquelles l'épisode dépressif majeur, possiblement accompagné d'idéations suicidaires, mais aussi les troubles anxieux (trouble anxieux généralisé, trouble panique avec agoraphobie), ou encore aux mésusages d'alcool, et de benzodiazépines [2]. Ce trouble impacte la qualité de vie et entraîne une invalidité significative [2], affectant principalement 5 dimensions de fonctionnement : la compréhension et la communication, le déplacement, les soins personnels, l'activité et la participation sociale [1,2]. Il existe également des comorbidités somatiques importantes au premier rang desquelles les pathologies cardiovasculaires. Celles-ci sont le plus souvent en lien avec une augmentation des troubles métaboliques : le diabète, l'hypertriglycéridémie, l'hypertension [3]. Ces comorbidités sont le plus souvent sous-diagnostiquées. Les sujets présentant un TSPT ont ainsi un risque accru d'infarctus du myocarde ou d'angine de poitrine [3,4]. Au-delà de la prise en charge du trouble psychiatrique, ces données rappellent l'importance de prendre en charge le sujet dans sa globalité. Il semble donc particulièrement important de mieux dépister ce trouble ainsi que ses comorbidités fréquentes chez le sujet âgé afin d'améliorer la qualité de vie et de diminuer la morbi-mortalité du TSPT. La prise en charge du TSPT chez le sujet âgé repose sur un traitement pharmacologique, au premier rang desquels les ISRS, et sur les psychothérapies. En particulier, les thérapies cognitives et comportementales peuvent être une proposition d'autant plus intéressante qu'il existe des comorbidités addictives ou somatiques.

**Mots clés** Trouble de stress post-traumatique ; Comorbidités ; Géronto-psychiatrie

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**Références**

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## S31

**Le numérique au service de la personne avec autisme**

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Si les outils numériques et particulièrement les tablettes tactiles ont été rapidement investies pour la prise en charge des troubles du spectre autistique et d'autres formes de troubles du développement, leur utilisation raisonnée devant la multitude

des applications ne va pas sans difficulté. Construit en cohérence avec les recommandations HAS et les programmes scolaires de l'éducation nationale, le programme LearnEnjoy développé en France est un support particulièrement bien structuré pour guider cliniciens et éducateurs dans leur travail. En s'appuyant sur la construction et le fonctionnement de cet outil, la session développera sa thématique en décrivant l'environnement théorique, le contenu des applications, l'utilisation dans le cadre de recherches en psychologie du développement, et le suivi dans plusieurs institutions de la mise en œuvre de ce programme. Olivier Bourgueil, psychologue spécialisé en analyse fonctionnelle du comportement (ABA) montrera comment le contenu des activités a été construit en prenant en compte les spécificités cognitives, attentionnelles et motivationnelles des enfants avec TSA. Les applications sont autant un espace pour le travail des compétences de l'enfant (ou de l'adulte) qu'un guide pour les accompagnants, parents, éducateurs et rééducateurs. Sylvain Moutier, professeur de psychologie cognitive, décrira un protocole de recherche en cours sur les troubles des fonctions exécutives utilisant ce support numérique, recherche visant à mieux connaître les particularités développementales de certains handicaps cognitifs et à améliorer les remédiations en fonction des difficultés observées. Un des atouts essentiels du travail avec LearnEnjoy repose sur le dispositif d'évaluation inclus dans le programme, enregistrant les progressions de l'enfant quel que soit l'endroit où il travaille. Cela renforce les liens de travail entre accompagnants et familles et permet au clinicien de documenter l'évolution des progrès. Gaële Régnauld conclura la session en présentant les résultats encourageants de travaux menés dans 22 établissements médicosociaux.

**Mots clés** TSA ; Numérique ; Apprentissage ; Remédiation ;

Fonctions exécutives ; Pratiques professionnelles

**Déclaration de liens d'intérêts** Olivier Bourgueil et Suzanne Robic ont une partie de leur activité au sein de LearnEnjoy.

*Pour en savoir plus*

Wolff M, Gattegno MP, Adrien J-L, Gabeau C, Isnard P. Contribution of tablets to the support of children and adolescents with autistic disorders. *J Eur Syst Automat* 2014;4–6:261–82.

Moutier S, Régnauld G, Bourgueil O. Création d'outils numériques pour personnes avec trouble du spectre de l'autisme : de la recherche à la pratique, et vice versa. Le numérique au service des personnes avec autisme, créer une dynamique de changement des pratiques professionnelles, Décryptages. *Enfance* 2015;15:4–6 [à paraître].

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## S31A

**Creating a specific tablet app for people with autism**

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"Autism" refers to a wide variety of disabilities, with numerous possible clinical signs and heterogeneous origins. Nevertheless, beyond those diverse clinical signs, a consensus exists concerning the necessity of interventions, particularly educational interventions, for people with autism [1]. In a society such as ours, turned towards digital technologies and tactile devices, (e.g. [2]), it is important to question the use of these technologies with people with developmental disabilities. Especially as some authors pointed the utility of these devices for teaching skills [3]. Various theoretical corpuses and elements of the scientific literature were taken into account and integrated to develop the LearnEnjoy applications, created initially for children with autism. These facts and knowledge, linked to the peculiarities of people with autism, to the functional approach of language, to the fundamental principles of learning, to an ABA approach, were integrated from the first stages of the development of the applications, to create

tools having solid scientific foundations. This way, the LearnEnjoy apps give the users (i.e. the “teachers”) the possibilities of teaching in a progressive and coherent way, different skills such as language (receptive, expressive), imitation, play and motricity, cognitive, academic skills or even independence skills. They also allow the progress in each area to be shared with the parents and the whole team, a necessary feature for the implementation of global and coordinated interventions. Finally, and maybe more importantly, these applications were created so as to specifically foster the contact between the person with autism and the “teacher”. This way the apps, at the same time, reduce the risk of pervasiveness of the tactile tablet, while favouring, just as much for the person with autism than for the accompanying person, the development of a positive, structured and structuring social relationship.

**Keywords** Autism; Tablet; Skills; Teaching; App; ABA

**Disclosure of interest** Olivier Bourgueil is an employee of LearnEnjoy.

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### S31B

#### **Improving executive function skills in children with autism spectrum disorder: The example of a new executive training protocol based on LearnEnjoy digital apps**

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Children with autism spectrum disorder (ASD) have serious difficulties to ignore visual and auditory distractors, or to inhibit ongoing activity on behalf of a new one, or to extract themselves from a routine. Such so-called executive functions enable us to control ourselves and to consider things from multiple points of view. They also involve paying attention, remembering what we need to remember to pursue our goals, thinking flexibly and not going on automatic, exercising inhibition. Then, the observed executive inefficiency of ASD [1,2] could be one of the main cause of perseverating behaviors in daily life and school activities. If the question of the efficient evolution of these executive functions from childhood to neurotypical adulthood has been addressed in many cognitive development researches, very few studies have focused on the atypical development of ASD patients. Following Diamond et al. [3], it is important to note that beyond acquiring always more knowledge, it is crucial to be able to inhibit reactions that get in the way of learning something new. Using preliminary data, we will explain how LearnEnjoy apps could become an essential basis of an innovative experimental paradigm, aiming at a better understanding of the atypical executive development of school-age ASD children. Based on new executive digital apps such as Stroop or Flanker Tasks testing for executive inhibition, the main goal of this scientific project is to show evidence of the possibility of executive training in children with ASD. As executive function skills predict

children's success in life and in school [4], such a new scientific study should allow us to envisage creating innovative remediation protocols for improving the deliberate, goal-directed control of behavior of ASD patients.

**Keywords** Children; Cognitive development; Autism spectrum disorder; Executive functions; Digital teaching tools

**Disclosure of interest** The author declares that he has no competing interest.

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### S31C

#### **A digital tool for deploying best practices and promoting inclusive education**

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Parents of children with cognitive disabilities and professionals from specialized institutions both face a lack of adapted educational tools for these children. Dealing with this situation, one parent has set up a collaborative project to create digital tools based on the latest advances of the scientific research. Recent studies have shown the appetite of these children for digital supports, with increased motivation and attention with tablet support compared to classic support. Starting from this observation, a team of ABA psychologists, speech therapists, teachers and IT engineers has designed a multidisciplinary tool, which has been tested by parents and professionals from specialized institutions. We will present two projects, one that took place in institutions, the other that took place in schools. These two projects aimed to assess how digital tools can be used for deploying the best practices and promoting inclusive education, in line with scientific research. LearnEnjoy proposed a pilot project between October 2013 and October 2014 in connection with 22 specialized institutions and volunteer families. This experimentation showed that tablets and the LearnEnjoy educational applications create a dynamic in professional teams, between parents and professionals, and between professionals and service users. This device provides additional structuring of work and facilitates the transmission of information. It also helps to spread the culture of evaluation within specialized institutions. LearnEnjoy also worked in collaboration with the French Education Ministry for the project Educare. This project aimed to support the inclusive school and individual monitoring, through regular monitoring of student progress and the establishment of an adapted school report book respectful of the National Education program. This project took place in 13 structures, ordinary and specialized classes. This experimentation showed that LearnEnjoy educational applications are beneficial for both students and teachers and create a positive dynamic in the classroom.

**Keywords** Digital; App; Recommended practices; Autism; Developmental disabilities

**Disclosure of interest** Gaële Regnault est la fondatrice de LearnEnjoy.