

SCALab

SCIENCES COGNITIVES ET SCIENCES AFFECTIVES

YEARBOOK 2024



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The directors' message

This year, 2024, was marked by the evaluation process of our unit by HCERES experts. As every five years (or rather six, due to the COVID year...), this was an opportunity to reflect on the journey of our research unit. This institutional exercise allowed us to review our activities from 2018 to 2023, reflect on our research practices and structure, and shape our trajectory for the coming years. This period of assessment and projection concluded with the visit of the expert committee to the laboratory and research federation site at the beginning of October. The outcome was a very positive evaluation of our unit, along with new avenues for reflection on our future activities.

In this context, the members of the laboratory continued to develop their research projects in their respective fields of expertise, maintaining a strong pace of publications, responding to various local, national, and international research calls and programs, and organizing a congress (the Congress of the Society of Psychophysiology and Cognitive Neurosciences in September).

Over the past year, Marie-Charlotte Gandolphe and Clémence Roger successfully defended their HDRs, and we are pleased to have welcomed seven new PhD graduates in the laboratory: Nahid Bakkali, Matthieu Bignon, Fanny Degouis, Alicia Fasquel, Charlotte Manceau, Amélie Remy-Neris, and Kelly Saint-Denny.

Thus, SCALab continues to be a well-established research hub within its network—not only in the fields of Psychology and Neurosciences but also in numerous interdisciplinary projects—with increasing visibility.

Finally, we are committed to ensuring that SCALab remains a safe and supportive environment where researchers can thrive, feel valued, and conduct innovative and rigorous research.

The management team,
Jean-Louis, Séverine, and Emmanuelle



Séverine CASALIS
Deputy director



Emmanuelle FOURNIER
Administrative manager



Jean-Louis NANDRINO
Director

SCALab networks



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Directory

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Glossary

- **ATER:** Attaché.e Temporaire d'Enseignement et de Recherche (Non-permanent teaching and research fellow)
- **CR:** Chargé de Recherche CNRS (CNRS Researcher)
- **IGE:** Ingénieur.re d'étude (Non-permanent Research Engineer)
- **IGR:** Ingénieur.re de recherche (Permanent Research Engineer)
- **MCF:** Maître.sse de Conférences (Lecturer /Associate Professor)
- **PR:** Professeur.e (Professor)
- **MAST:** Maître.sse de Conférences Associé.e (Part-time lecturer)

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Team AVA



Coordinators: Solène Kalénine & Laurent Madelain

The **AVA** team focuses on exploring a functional approach of vision, the relations between perception and action, and the role of reinforcement in behavioral changes. Research topics encompass behavioral, cognitive and brain mechanisms. Applications relate to the digital domain (cognitive technologies, virtual reality, etc.) and neuropsychology.

Methodologies: quantifying response times and choices, eye movements, fNIRS, EEG, EMG, EDA, motion capture, static and dynamic virtual reality, force platform, computational modeling, neural networks.

Populations: healthy adults, patients with neurological or psychopathological disorders, children with typical and atypical development, older adults

[*See more here*](#)

Haddad, L., Wamain, Y., & Kalénine, S. (2024).

Interference from multiple affordances when selecting everyday graspable objects: Thematic relations solve it. *Journal of Experimental Psychology: Human Perception and Performance*, 50(8), 875–891.

Abstract

Object perception and action are closely interrelated: Various grasping components are evoked when perceiving visual objects (“object affordances”). Yet little is known about the impact of the evocation of multiobject affordances on object perceptual processing. This study aimed to determine whether object processing may be affected by the similarity of affordances evoked by multiple objects and whether semantic relations between objects modulate this effect. Adult students were presented with three-dimensional scenes involving pairs of graspable objects. Each object evoked grasp size affordances (precision or power grasps). Affordances of the two objects could be similar or dissimilar and objects could be thematically related (spatula–pan) or unrelated (spatula–snow globe). Participants had to judge the color of a target object by performing power and precision grasps compatible or incompatible with the target evoked grasp. Results showed slower responses on compatible targets when unrelated distractors evoked similar compared to dissimilar affordances. This cost of similar affordances disappeared when objects were thematically related. Findings corroborate predictions of recent models hypothesizing automatic inhibition of distractor affordances when selecting one object among others. We further provide novel evidence for a role of thematic relations between objects in the perception of multiple affordances. Findings have implications for object processing in naturalistic scenes.

[*See more here*](#)

Gigandet, R., Diana, M. C., Ouadada, K., & **Nazir, T. A.** (2024).
Beyond Explicit Acknowledgment: Brain Response Evidence of Human Skepticism
towards Robotic Emotions. *Robotics*, 13(5), 67.

Abstract

Using the N400 component of event-related brain potentials, a neurophysiological marker associated with processing incongruity, we examined brain responses to sentences spoken by a robot that had no arms or legs. Statements concerning physically impossible actions (e.g., knitting) elicit significant N400 responses, reflecting that participants perceived these statements as incongruent with the robot's physical condition. However, this effect was attenuated for participants who indicated that the robot could have hidden limbs, indicating that expectations modify the way an agent's utterances are interpreted. When it came to statements relating to emotional capabilities a distinct pattern was found. Although participants acknowledged that the robot could have emotions, there were significant N400 responses to statements about the robot's emotional experiences (e.g., feeling happy). This effect was not modified by participants' beliefs, suggesting a cognitive challenge of accepting robots as capable of experiencing emotions. Our findings thus point to a boundary in human acceptance of artificial social agents: while physical attributes may be negotiable based on expectations, emotional expressions are more difficult to establish as credible. By elucidating the cognitive mechanisms at play, our study informs the design of social robots that are capable of more effective communication to better support social connectivity and human well-being.

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Casso, I., Chame, H. F., Hénaff, P., & Delevoye-Turell, Y. (2024).

Exploring Engagement in Human-Robot Interaction through the Quantification of Human Spontaneous Movement. In 2024 33rd IEEE International Conference on Robot and Human Interactive Communication (ROMAN) (pp. 1768-1773). IEEE.

Abstract

Developments in the field of social robotics open interesting opportunities for applications in healthcare, education, and services. For this, studying engagement in human-robot interaction (HRI) is crucial for improving the quality of interactive experiences. Questionnaires are powerful in describing voluntary behavior; however, engagement is often an implicit non-voluntary behavior that reaches awareness only once initiated. Inspired by research in cognitive psychology, we propose a behavioral feature to quantify engagement in HRI through the measurement of spontaneous movement and spectral wavelet analysis. For this, we conducted an experiment during which participants listened to sad stories narrated by a moving social robot. Throughout the experiment, we tracked the participants' spontaneous and non-voluntary sway movements with a motion capture system. The experiments were conducted with three robotic platforms (Buddy, Pepper, and Nao). Results showed that spontaneous body sway can be modulated by social robots within no-goal-oriented interaction. This opens up the application possibility of our methodology to various modes of HRI such as collaboration.

[*See more here*](#)

Lenglart, L., Roger, C., Sampaio, A., & Coello, Y. (2024).

The role of object ownership on online inhibition in peripersonal space.
Psychophysiology, 61(11), e14659.

Abstract

Peripersonal space (PPS), as opposed to extrapersonal space (EPS), refers to the area surrounding the body within which individuals interact with objects or conspecifics. However, objects in PPS can belong to oneself or to others, which was found to influence how these objects are encoded. We analyzed the performances of motor responses in a reachability judgment task concerning self-owned and other-owned objects (cups) presented in PPS or EPS. EMG activities were recorded on the thumbs (flexor pollicis brevis) to detect correct and erroneous motor activations. Behavioral data showed that motor responses were shorter and longer for self-owned cups compared to other-owned cups in PPS and EPS, respectively. Ten percent of trials showed initial response errors, which were higher in the EPS for self-owned cups and in the PPS for other-owned cups. Eighty-two percent of these errors were corrected online, with corrections being more efficient for self-owned cups in the PPS. Overall, the data revealed that reachability judgments were faster and more accurate in the PPS, with more efficient inhibition processes in the presence of motor errors. Motor selection and correction are thus modulated by the social context of object ownership, highlighting the specific role of the PPS in encoding self-relevant objects for action.

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Millequant-Gourari, F., Tomas, M. & Delevoye-Turrell, Y.N. (2024a)

Qualitative study on the experience of patients who have completed a cardiac telerehabilitation program. *Archives of Cardiovascular Diseases*, 117(1), S156-S157.

Abstract

Home-based cardiac rehabilitation has shown effects comparable to centre-based rehabilitation in different countries (Anderson et al., 2017). It is currently being tested in France with the Walk Hop program. In particular, this program allows patients to carry out adapted physical activity sessions remotely. The objective of this study is to explore the experience of physical activity in patients who have completed the 3 weeks of the home-based rehabilitation program in partnership with 6 rehabilitation centers in France. It will make it possible to collect perceptions of home-based rehabilitation, their feelings in relation to effort and physical activity as well as their motivation and confidence in the pursuit of physical activity in the future. This study is currently in progress. We carry out semi-structured interviews with 15 volunteer patients who have completed the program according to an interview guide. The interviews are transcribed and then analyzed using the thematic analysis method (Braun and Clarke, 2006). Our first results indicate that a significant proportion of patients would not have undergone rehabilitation without home-based rehabilitation. This solution also allows some to access rehabilitation in a shorter time. Reassurance and information needs are also expressed by the majority of patients and seem to be satisfied by this solution. In conclusion, home-based rehabilitation has made it possible to experience the effort positively: to regain confidence, desires and pleasure. In addition, the autonomy given by home-based rehabilitation seems to reassure them in their ability to maintain physical activity over time..

Virlet, L.-M., Sparrow, L., Barela, J., Berquin, P., & Bonnet, C. T. (2024). Proprioceptive intervention improves reading performance in developmental dyslexia: An eye-tracking study. *Research in Developmental Disabilities*, 153, 104813.

Abstract

Developmental dyslexia is characterized by difficulties in learning to read, affecting cognition and causing failure at school. Interventions for children with developmental dyslexia have focused on improving linguistic capabilities (phonics, orthographic and morphological instructions), but developmental dyslexia is accompanied by a wide variety of sensorimotor impairments. The goal of this study was to examine the effects of a proprioceptive intervention on reading performance and eye movement in children with developmental dyslexia. Nineteen children diagnosed with developmental dyslexia were randomly assigned to a regular Speech Therapy (ST) or to a Proprioceptive and Speech Intervention (PSI), in which they received both the usual speech therapy and a proprioceptive intervention aimed to correct their sensorimotor impairments (prism glasses, oral neurostimulation, insoles and breathing instructions). Silent reading performance and eye movements were measured pre- and post-intervention (after nine months). In the PSI group, reading performance improved and eye movements were smoother and faster, reaching values similar to those of children with typical reading performance. The recognition of written words also improved, indicating better lexical access. These results show that PSI might constitute a valuable tool for reading improvement children with developmental dyslexia.

[*See more here*](#)

Bonnet, C. T., Kechabia, Y.-R., Magnani, I., Polastri, P. F. and Rodrigues, S. T. (2024). Benefits of postural sway to succeed in goal-directed visual tasks. *Human Movement Science*, 97, 103277, <https://doi.org/10.1016/j.humov.2024.103277>.

Abstract

When individuals stand, they sway and so have to maintain their balance. It is generally expected that task performance is worse when standing and swaying than when sitting and therefore not swaying. In contrast, we hypothesized that greater sway is associated with better task performance in the absence of external perturbations of posture. Twenty-four healthy, young adults performed two goal-directed, modified Stroop tasks (incongruent and reversed incongruent) in four body position conditions (standing against a vertical surface, and standing freely with a wide, standard or narrow stance). Centre of pressure (COP) sway, head sway, eye movements, visual attention, and task performance were recorded. Partial correlation analyses showed significant positive associations between task performance and some COP and head sway variables, after controlling for the level of visual attention. Analyses of variance with three factors (body position, task difficulty, target distance) also showed significant interaction effects between body position (and therefore postural sway) and the number of accurate target findings. The presence of these interactions showed that narrow stance was both the best body position for performing the incongruent task and the worst body position for performing the reversed incongruent task. Overall, COP sway and head sway can increase task performance. Hence, healthy, young adults in quiet stance appear to use sway to explore their environment more effectively. However, it should be borne in mind that our hypothesis was formulated solely with regard to healthy, young adults standing in quiet stance.

[*See more here*](#)

Haddad, L., Wamain, Y., & Kalénine, S. (2024). Stimulus–response compatibility effects during object semantic categorisation: Evocation of grasp affordances or abstract coding of object size?. *Quarterly Journal of Experimental Psychology*, 77(1), 29-41.

Abstract

When the size of visual objects matches the size of the response required to perform the task, a potentiation effect has been reported, with faster responses in compatible than incompatible situations. Size compatibility effects have been taken as evidence of close perception-action interrelations. However, it is still unclear whether the effect arises from abstract coding of the size of stimulus and response or from the evocation of grasp affordances from visual objects. We aimed to disentangle the two interpretations. Two groups of 40 young adults categorised small and large objects presented in standardised size as natural or artefact objects. One group categorised manipulable objects that may be associated with small or large size properties and evoke power or precision grasp affordances. The other group categorised non-manipulable objects that may only be associated with small or large size properties. Categorisation responses were made by reaching and grasping a monotonic cylindrical device with a power or precision grip in a grasping condition and with large or small touch responses in a control condition. Compatibility effects were found in both grasping and control conditions, independently of the manipulability or category of objects. Participants were faster when the size of the expected response matched the size of the object than when they mismatched, especially for power grasps or whole-hand touch responses. Overall findings support the abstract coding hypothesis and suggest that compatibility between the conceptual size of the object and the size of the hand response is sufficient to facilitate semantic categorisation judgements.

Partnerships

AVA team



sensoria



Zoom on a partner

AVA team



Dr. Solène Kalénine, CNRS researcher in SCALab, was selected as a laureate of the prestigious Fulbright-France program. This fellowship allowed her to return to the Moss Rehabilitation Research Institute (MRRI) for a year to collaborate with her former mentors, Dr. Laurel Buxbaum and Dr. Erica Middleton, experts in post-stroke action and language deficits.

Recently, Solène Kalénine has been investigating whether images with motor cues can facilitate word learning. Her previous studies demonstrated that neurotypical adults learned object names more effectively when associated with an image depicting the corresponding action (e.g., a hand holding a hammer). She hypothesized that this approach could also benefit individuals with post-stroke aphasia.

At MRRI, participants with aphasia are being recruited to participate in a six-session training program. Half of the trained words are paired with gesture cues, and preliminary results indicate that these cues enhance word retrieval.

Solène Kalénine and her colleagues look forward to analyzing the full dataset. She reflects on this experience as both scientifically enriching and personally rewarding, describing MRRI as her “second home” after returning as a researcher in France.



[*See more here*](#)

Team DEEP



Coordinators:

Delphine Grynberg & Henrique Sequeira

The **DEEP's team** leads a global project aiming to constitute a competence center in Affective Sciences. To this end, the team resources are focused on the analysis and dynamics of emotional processes regulation, strongly associated to several pathologies and health challenges. The research program, subtended by several advanced multilevel techniques, allows a wide spectrum of emotional information analysis, from the brain control to complex social interactions. The DEEP's approach aims to develop new and efficient therapeutic procedures both at individual and family levels.

Methods: brain recordings (EEG, ERPs, Oscillations, MEG); autonomic recordings (facial thermal variations, electrodermal activity, heart rate and variability, respiratory and pupillary variations); behavioral measures (eye movements, quantitative narrative analysis, psychometric assessments, video-behavioral analysis).

Populations: healthy adults or having sub-clinical symptoms and patients with mental, somatic or neurological illnesses.

[*See more here*](#)

Manceau, C., Antoine, P., Deleruyelle, J., & Gérain, P. (2024).

Dyadic processes and adjustment of couples experiencing a neurodegenerative disease: A meta-synthesis. *Health Psychology Review*.

Abstract

Neurodegenerative diseases (NDDs) pose significant challenges to couple relationships. Existing research has predominantly focused on the impact of Alzheimer's disease (AD) on various types of dyads, resulting in significant advances in the field. However, despite a keen interest in transdiagnostic approaches, a comprehensive review addressing dyadic processes underlying the functioning of couple relationships across different NDDs is lacking. This meta-synthesis aimed to fill this gap by identifying, analysing, and integrating findings from qualitative studies examining couples facing different NDDs. Searches were conducted in four databases, identifying 35 articles meeting several inclusion criteria. A thematic synthesis was performed, identifying three interdependent themes: 'Disease-related challenges', 'Dyadic interactions', and 'Dyadic identity'. They emphasise that stress, social changes, the perception of time, and uncertainty are major challenges for partners. They also show how dyadic interactions such as communication are transformed and how partners strive to maintain their shared identity despite the progressive loss of the relationship's core components. This synthesis highlights key implications for clinical practice and future research, including the need to integrate disease-specific characteristics to interventions and understand the couple's functioning patterns and their evolution throughout the disease.

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Caton, L., Duprez, C., Flahault, C., Lervat, C., Antoine, P., Calvez, A., & Lamore, K. (2024). A Qualitative Study on the Transition from Pediatric to Adult Care in Oncology: How Health Care Professionals Can Adapt Their Practice? *Journal of Adolescent and Young Adult Oncology*.

Abstract

The main objective of this study was to identify the facilitators of and barriers to the transition from pediatric to adult care for adolescents and young adults (AYAs) with cancer according to physicians and nurses working in oncology. The secondary objectives were (1) to explore the viewpoints of health care professionals (HCPs) on this transition and (2) to discover HCP's needs and the needs they perceive among AYAs and their parents.

Semistructured interviews were conducted with 19 HCPs to discover their experiences with pediatric to adult care transitions. Thematic analysis was then conducted.

Participants reported that transitioning is a complex process influenced by numerous barriers and facilitators, which can be classified into four themes: (1) balancing the needs and relationships of the three actors involved in the transition process, (2) factors that enable HCPs to determine the ideal time for transitions, (3) institutional and organizational barriers and facilitators that challenge HCPs, and (4) HCPs' reflections on defining and improving the transition process.

Beyond the lack of human and financial resources, which hinders the structuring of transitions, our results suggest the need for a paradigm shift. That is, the position given to AYAs in pediatrics before the transition needs to evolve so that they are gradually positioned at the center of the relationship with HCPs and, therefore, are the focus of care and the transition process. This will enable them to acquire the skills, knowledge, and autonomy needed for a successful transition to adult care.

De Groot, C., Tison, P., Bertin, S., Cottencin, O., & Nandrino, J. L. (2024). I Feel I Remember: The Phenomenology of Autobiographical Recall in Individuals with Alcohol Use Disorder. Psychopathology, 1-12.

Abstract

Beyond the memory deficits classically observed in individuals with alcohol use disorder (IwAUD), research has recently focused on the study of autobiographical memory (AM) processes in IwAUD by analysing the content of AM narratives, and the implications for self-conception have been discussed. However, little is known about how IwAUD subjectively experience autobiographical recall. Thirty-seven IwAUD and 37 control participants were invited to perform an AM task that involved recalling memories for 4 life periods (2 important memories per period). Then, they assessed their subjective experience during AM recall using 6 phenomenological scales evaluating emotional valence, emotional intensity, sensory details, distancing, sharing, and vividness. Anxiety and depression symptoms, interoceptive sensibility, and difficulties in emotion regulation were also measured. The IwAUD experienced greater distancing during AM recall, except during childhood AM recall, indicating that IwAUD are more prone to feeling that the person they are today is different from the person in their retrieved AMs. Very few intergroup differences were observed for AMs from childhood, adolescence-young adulthood, and adulthood, and a greater number of differences were observed for AMs from the last year: the IwAUD experienced AMs with a more negative valence, greater emotional intensity, fewer sensory details, greater distancing, and less sharing. A positive correlation was observed between distancing and interoceptive sensibility in the IwAUD group. Although these results suggest good preservation of auto-nocuous consciousness in IwAUD, except for more recent AMs, it is insufficient for IwAUD to experience a sense of self-continuity. This difficulty in maintaining a continuous sense of self may constitute a risk for AUD relapse.

[*See more here*](#)

Allé, M. C., Joseph, C., & Antoine, P. (2024).

Involuntary Autobiographical Memory in Alzheimer's Disease: A Double-Edged Way of Remembering the Past? *Journal of Alzheimer's Disease: JAD*, 101(3), 961-969.

Abstract

Alzheimer's disease (AD) is characterized by severe memory alterations, affecting especially memories of personal past events. Until now, autobiographical memory impairments have been characterized using formal memory assessments, requiring patients to strategically and deliberately recall past events. However, contrary to this highly cognitively demanding mode of memory recall, autobiographical memories frequently come to mind unexpectedly based on automatic associative processes. The involuntary recall of personal memories is effortless and possibly represents a preserved way for AD patients to remember past events. This study aimed to investigate involuntary autobiographical memory in AD patients and compare the characteristics of these memories with those of healthy controls. Involuntary autobiographical memory was measured in 24 AD patients and 24 matched control participants using self-report measures. Participants were asked to report the frequency with which involuntary autobiographical memories were experienced in their daily life and to describe and self-assess one example of an involuntary memory. We showed that AD patients and control participants did not differ in terms of the frequency or subjective characteristics of their involuntary autobiographical memories in daily life, except for feelings of intrusiveness. Compared to control participants, AD patients reported their involuntary autobiographical memories as being more intrusive. In addition, more negative and vague involuntary autobiographical memories were associated with greater depressive symptoms. These findings open up a new avenue for research to better understand the extent to which involuntary autobiographical memory might be preserved in AD patients and why these memories may in turn become intrusive to patients.

Justin, P., Dorard, G., Leu, A., & Untas, A. (2024). Young carers supporting a relative with cancer: What is healthcare professional's knowledge in France? An exploratory study. *European Journal of Oncology Nursing*, 102567.

Abstract

Many children and adolescents support relatives with cancer. However, literature about young carers (YCs) shows a lack of awareness among professionals, especially in oncology. This quantitative study aims to explore the level of knowledge and perceptions of healthcare professionals working with cancer patients about the situations and characteristics of YCs.

395 professionals participated in an online survey. Professionals reported sociodemographic and professional information and answered several questions evaluating their perceptions about YCs, such as the types of support provided and the consequences of being a YC. Descriptive analysis and group comparisons (Chi-square, Mann-Whitney U, and Kruskal-Wallis tests) by sex, occupation, and patients treated (adult and/or pediatric) are performed on the data collected. Overall, per the literature on YCs, professionals provide an adequate description of what a YC can be, even though one in two professionals have never heard the term. Several differences are observed: Men mention fewer types of support that YCs can provide, while women report more negative consequences of being a YC; psychologists and social workers report fewer positive impacts for these young people than the other professionals; professionals who work with pediatric patients mention fewer negative consequences than those who work with adults. Oncology healthcare professionals have sufficient awareness of YCs; however, several professionals struggle to fully understand the situation of YCs. These findings underline the need for awareness programs in oncology to improve health professionals' understanding of YCs and enhance their identification and support.

Wawrziczny, E., Flinois, B., Constant, E., Brugallé, E., Sokolowski, C., **Manceau, C.**, Baille, G., Defebvre, L., Dujardin, K., & **Antoine, P.** (2024).

Dealing with the diagnosis of Parkinson's disease and its implications for couple functioning in the early stage: An interpretative phenomenological analysis.

Abstract

For couples facing Parkinson's disease, marital relationships are significantly impacted, even at the early stages of the disease. However, very few studies have explicitly explored the functioning of the couple and how both partners deal with Parkinson's disease. The aim of this study was to explore the experiences and strategies of couples facing Parkinson's disease in the early stage using dyadic interpretative phenomenological analysis. Fifteen couples agreed to participate in the study. Semistructured interviews were conducted with each partner separately regarding his or her individual experience with Parkinson's disease, the couple's history, the impact of the diagnosis on the functioning of the couple, and his or her projections for the future. Three higher-order themes emerged from the analyses. The first theme, "Being tested by the diagnosis", highlights 4 dyadic configurations according to the individual's and the couple's capacity for adjustment following the diagnosis: "noncongruent", "collapsed", "relieved" and "avoidant". The second theme, "Talking about everything except the disease", underlines that communication about the disease is often avoided both within the couple and with relatives to protect the persons with Parkinson's disease or respect their wishes. The third theme, "Supporting each other", describes the different levels of harmony between the two partners in the management of daily life and symptoms and their relational impacts. These results allow us to better understand the experiences of both partners and to highlight the importance of promoting better acceptance of the diagnosis by persons with Parkinson's disease to allow better communication between partners and with relatives. Such support prevents disease-specific distress and facilitates better adjustment in the later stages of the disease.

[*See more here*](#)

Carre, A., Shankland, R., Guillaume, P., **Duclos, J.**, El-Jor, C., Pellissier, S., & Flaudias, V. (2024). Validation of the French version of the Body Awareness Questionnaire: toward a way to assess alexisomia. *Frontiers in Psychology*, 15, 1261994.

Abstract

Awareness of one's own states is a particularly important part of cognition and emotion regulation. Recently, the concept of alexisomia has been used to refer to lack of awareness and expression of somatic sensations. Developing self-reported questionnaires to evaluate alexisomia represents a challenge for clinical psychology and medicine. In this context, we suggested to adapt the Body Awareness Questionnaire in French to measure alexisomia and its relation to alexithymia. In fact, we carried out a backtranslation and studied the validity of the construct in relation to proximal constructs around emotional awareness.

For this study, 610 university students completed questionnaires measuring a three dimensions alexithymia concept [with The Toronto Alexithymia Scale (TAS-20)] or the five dimensions alexithymia concept [with The Bermond-Vorts Alexithymia Questionnaire (BVAQ-B)] and alexisomia (with the BAQ).

Confirmatory factor analyses showed that the BAQ can be envisaged through 4 factors as well as a unidimensional model to refer to alexisomia. We also found that body awareness was negatively related to scores of alexithymia.

Results are discussed in light of the construct of alexisomia and its clinical implications in somatic as well as mental disorders. We suggest that the BAQ, which assesses interoception, can contribute, in part, to the assessment of alexisomia. Like alexithymia, this is a key concept to take into consideration when designing treatment and prevention programs.

[*See more here*](#)

Baudry, A.-S., Delpuech, M., Charton, E., Peugniez, C., Hivert, B., Carnot, A., Ceban, T., Dominguez, S., Lemaire, A., Aelbrecht-Meurisse, C., Anota, A., & **Christophe, V.** (2024). Is intrapersonal emotional competence a personal resource for the quality of life of informal caregivers of cancer patients unlike interpersonal emotional competence?

Abstract

This study assessed the influence of intrapersonal (one's own emotions) and interpersonal (emotions of others) emotional competence (EC) of informal caregivers on their quality of life (QoL) at the beginning of cancer care.

Methods

Participants completed two questionnaires assessing their intrapersonal and interpersonal EC (S-PEC) as well as their QoL (SF-36) at the beginning of treatments. Multivariate ANCOVA regression analyses were then performed to explore the influence of EC on QoL.

The questionnaires were completed by 203 caregivers. As expected, intrapersonal EC was associated with a better QoL in all sub-dimensions ($p < 0.01$). More surprisingly, interpersonal EC was associated with worse QoL in terms of physical role (-8.97 [95% CI $-16.74; -1.19$]), emotional role (-8.37 [95% CI $-16.27; -0.48$]), and general health (-4.50 [95% CI $-8.08; -0.92$]).

Intrapersonal EC should be improved for better QoL of caregivers of cancer patients. However, the more caregivers are attentive to the emotions of others (e.g., by identifying, understanding, listening and helping to manage emotions), the more their physical and psychological state has an impact on their daily life and their perceived health is impaired.

Fournier, V., Fontesse, S., Christophe, V., Ramdane, N., Anota, A., Gauchet, A., Lelorain, S., **Baudry, A.-S.**, **Duprez, C.**, Devaux, S., Bergeat, D., D'Journo, X. B., Glehen, O., Piessen, G., & **Grynberg, D.** (2024). Postoperative complications and symptoms of anxiety and depression in patients with gastric and esophageal cancer : A retrospective cohort study.

Abstract

Gastric and oesophageal cancers are common. They are also expected to increase in incidence in the next few years and are characterized by poor prognosis. Surprisingly, whereas the incidence of severe anxiety and depression is high in patients with gastric and oesophageal cancers, the influence of symptoms of depression and anxiety on postoperative complications has barely been explored.

In a retrospective study based on a prospectively collected database, 629 cancer patients were enrolled. Symptoms of depression and anxiety (Hospital Anxiety and Depression Scale scores) and sociodemographic and medical information were collected immediately after diagnosis and before any treatment. The surgical approach (i.e. gastrectomy or oesophagectomy) and postoperative complications according to the Clavien–Dindo classification were collected after surgery.

After controlling for known medical predictors (i.e. surgical strategy, alcohol and tobacco consumption, American Society of Anaesthesiologists classification physical status score) of postoperative complications, no effect of symptoms of depression or anxiety was detected.

The observed results are surprising given the literature. However, several potential arguments can be put forwards regarding methods and measures, controlling variables, and conceptual distinctions. Despite the absence of significant results, this topic should be more deeply investigated by applying methodological and conceptual adjustments.

Partnerships

DEEP team

Centre Oscar Lambret

CENTRE DE LUTTE CONTRE LE CANCER
LEON BERARD



Zoom on a partner

DEEP team



Oscar Lambret Center: A strong and fruitful collaboration

Our laboratory has maintained a longstanding (more than 15 years) and productive research collaboration with the **Oscar Lambert Center**, a leading institution in cancer care in Lille. This partnership has evolved over many years, fostering a **synergistic relationship between psycho-oncology research and oncology care**. This was possible thanks to the support of the **Prof. Eric Lartigau** (general director), **Prof. Nicolas Penel** (director of the clinical research department) and all the clinicians of the Oscar Lambret Center.

Impact and benefits

Our ongoing collaboration encompasses more than 10 studies, including both research projects funded by calls for projects and initiatives conducted with our institutional funding. This allows us to:

- Conduct **observational studies to identify challenges faced by patients, caregivers and healthcare professionals** (e.g., unmet needs, quality of life, sexual health, post traumatic stress),
- Evaluate newly implemented **care programs and interventions within the center**
- Consider the **content of long-term interventions** to be developed and their implementation in the field, for the maximum benefit of patients, caregivers, and healthcare professionals.

These studies provide crucial insights that inform both **clinical practice** and **future research directions**.

This collaboration has proven highly beneficial for both institutions:

- For the Oscar Lambert Cancer Center:** Access to rigorous evaluation of their care programs and evidence-based insights into patient and caregivers experiences,
- For our laboratory:** Opportunity to conduct meaningful clinical research in a real-world setting, based on issues that emerge in the field and can be applied in clinical practice contributing to the advancement of psycho-oncology knowledge and implementation in care.

Through this partnership, we continue to bridge the gap between psychological research and clinical oncology practice, ultimately working to improve the quality of care and support provided to cancer patients and their caregivers.

Team Language



Coordinators:

Angèle Brunellière & Sandrine Mejias

The **Language team** focuses on the cognitive and neurocognitive mechanisms involved in the learning and processing of spoken and written language by using behavioral measures, brain imaging measures and psychometric and computational approaches in relation with the experimental approach.

- **Reading**: We examine the place of morphological operations in learning to read and write. Alos, we examine the specificity of processes involved in reading in dyslexics.
- **Learning words**: We investigate whether acquisition trajectories are comparable in normal and special populations. In second language, learning an L2 in a school context presents many specificities. In this framework, we examine the role of spelling in word learning and the interactions between the written lexicon of the L1 and the L2.
- **Spoken communications**: We study how to perceive speech, how to understand a spoken sentence and how to dialogue between individuals. In this context, we try to address various challenging questions as the link between the percpetion and production of speech or the role of memory in shared knowledge in dialogue.
- **Counting**: We are interested in identifying the skills that young children need to acquire good arithmetic skills. The environmental and neuro-biological factors involved in the proper development of these skills are also studied.

[*See more here*](#)

Menut, A., Brysbaert, M., & **Casalis, S.** (2024). Do French speakers have an advantage in learning English vocabulary thanks to familiar suffixes?. *Quarterly Journal of Experimental Psychology*, 17470218241245685.

Abstract

Previous research has shown that languages from nearby families are easier to learn as second languages (L2) than languages from more distant families, attributing this difference to the presence of shared elements between the native language (L1) and L2. Building on this idea, we hypothesised that suffixes present in L1 might facilitate complex word acquisition in L2. To test this hypothesis, we recruited 76 late French-English bilinguals and tasked them with learning a set of 80 English-derived words containing suffixes that also exist in French (e.g., -able) or are unique to English (e.g., -ness). Consolidation of the learned words was assessed 1 week after the last learning session. The results showed a significant learning effect across the learning trials and consolidation, suggesting that the bilingual participants were able to acquire the derived words. However, contrary to our hypothesis, suffixes also existing in French did not give a significant advantage over English-unique suffixes. Further analysis revealed that this was due to variations in the consistency of familiar suffixes from L1. While some translation pairs shared the same suffix (e.g., amazement-étonnement), others had different suffixes (e.g., slippage-glissement). The type of translation pair with inconsistent suffix overlap (slippage-glissement) carried learning costs, preventing the bilingual participants from benefitting from the presence of familiar suffixes in L2 words. These findings suggest that shared information can be used effectively for L2 learning only if the mapping between L1 and L2 is consistent.

[*See more here*](#)

Gala, N., Roubaud, M. N., & **Javourey-Drevet, L.** (2024). La difficulté d'apprentissage du vocabulaire de spécialité à l'école: le cas des verbes opaques. *Lexique. Revue en Sciences du Langage*, (34).

Abstract

This work has been carried out with the aim of shedding light on the lexical knowledge of middle-school learners regarding vocabulary from domain-specific texts. We analyse a series of opaque verbs (polysemous, frequent in history and science textbooks) and we draw up an assessment of the lexical knowledge of 219 children from grades 4 and 5 (aged 9 to 11) in different schools in France. We also show the strategies used by learners to respond to the proposed task of writing a sentence with a given verb out of context.

[*See more here*](#)

Bangerter, A., **Knutsen, D.**, Germanier, E., Col, G., & Brosy, J. (2024). Okay as a marker for coordinating transitions in joint actions: Effects of participant role and age in Swiss German and Swiss French interviews. *Journal of Pragmatics*, 230, 166-186..

Abstract

Joint actions like everyday conversations feature the use of speech particles like back-channels or discourse markers to coordinate transitions from one part of the action to another. Transitions can be either horizontal (within tasks or subtasks; i.e., moving from one step to the next in a task) or vertical (between tasks or subtasks). In English, okay is typically used to coordinate vertical transitions. In institutionalized joint actions, okay is used especially by institutional representatives to manage the joint action. Little is known about these uses of okay in other languages, or about when okay may have diffused into those languages. We investigated the use of okay as a vertical coordination marker in Swiss German research interviews and Swiss French job interviews. Okay was consistently used as a vertical transition marker in both settings, especially by interviewers. Younger participants used okay more often than older participants. The findings suggest that okay may have diffused into other languages not only as a marker of agreement, but also as a marker for coordinating transitions.

[*See more here*](#)

Lazartigues, L., Lavigne, F., & Mathy, F. (2024). Transitional Probabilities, Prediction and Backward Associations in Language. *L'Année psychologique*, 124(3), 347-374.

Abstract

Sequence processing is a key cognitive mechanism that plays a central role in language. Sequential information helps to predict a stimulus based on previous one(s) more effectively. Accurate predictions result in reduced processing times and fewer errors on stimuli that can be anticipated (Brunellière et al., 2022; DeLong et al., 2005; Willems et al., 2016). Moreover, enhanced predictions lead to higher language skills, including smoother reading aloud (Gavard & Ziegler, 2022), facilitated speech perception in poor listening conditions (Conway et al., 2010), and accelerated reading with more predictable words being read more rapidly (Albregues et al., 2019; Frisson et al., 2005; Zang et al., 2023). However, although prediction can improve comprehension (Pickering & Gambi, 2018), it is not a necessary component of language learning and comprehension (Huettig & Mani, 2016). Since the ability to predict sequential events relies primarily on the statistical regularities between the ordered stimuli of a sequence (Erickson & Desimone, 1999), the main issue is to establish which statistical regularities can be learned. In this article, we first review the literature that primarily focused on the frequency of cooccurrence of two words. The words may be related (frequently associated) or unrelated (not frequently associated) in the semantic priming paradigm. We posit that transitional probabilities play a crucial role in providing a more nuanced description of the associations between words...

[*See more here*](#)

Mahé, G., Grisetto, F., Macchi, L., Javourey-Drevet, L., & Roger, C. (2024). Error-monitoring: A predictor of future reading skills? A 3-year longitudinal study in children. *Developmental Cognitive Neuroscience*, 66, 101350.

Abstract

Investigation of the factors explaining individual differences in the acquisition of expert reading skills has become of particular interest these last decades. Non-verbal abilities, such as visual attention and executive functions play an important role in reading acquisition. Among those non-verbal factors, error-monitoring, which allows one to detect one's own errors and to avoid repeating them in the future, has been reported to be impaired in dyslexic readers. The present three-year longitudinal study aims at determining whether error-monitoring efficiency evaluated before and during reading instruction could improve the explanation of reading skills. To do so, 85 children will be followed from the last year of kindergarten to the second grade. The classic predictors of reading will be assessed at each grade level. Error-monitoring indices in domain-general and reading-related contexts will be derived from EMG data recorded during a Simon task in kindergarten and during both a Simon and a lexical decision tasks in the first and second grades. Findings concerning the role of error-monitoring on reading skills are expected to have an important impact on reading instruction to prevent reading difficulties in at-risk children and improve remediation to help children with reading difficulties.

[*See more here*](#)

Fumel, J., Bahuaud, D., Weed, E., Fusaroli, R., & **Basirat, A.** (2024). A Systematic Review and Bayesian Meta-Analysis of Acoustic Measures of Prosody in Parkinson's Disease. *Journal of Speech, Language, and Hearing Research*, 67(8), 2548-2564.

Abstract

Linguistic prosody is affected in Parkinson's disease (PD), which implicates the basal ganglia's role in the production of prosody. However, there is no recent systematic synthesis of the available acoustic evidence of prosodic impairment in PD. This study aimed to identify the acoustic features of linguistic prosody that are consistently affected in PD. The authors systematically reviewed articles that reported acoustic features of prosodic production in PD. Articles focused on fundamental frequency (F0) and its variability, intensity and its variability, speech and articulation rate, and pause duration and ratio. From a total of 648 records identified, 36 met criteria for inclusion and exclusion. For each acoustic measurement and task, data from people with PD (PwPD) were compared with those from controls to extract effect sizes. Pooled effect sizes were estimated using robust Bayesian hierarchical regression models. PD was associated with decreased F0 variability and increased pause duration. There was limited evidence of reduced intensity variability and speech rate in PwPD. No evidence was found to suggest that PD affects articulation rate or pause ratio. The primary acoustic parameters of prosody affected by PD are F0 variability and pause duration. The identification of these acoustic parameters has important clinical implications for the selection of PD management strategies. The association of F0 variability and pause duration with PD suggests that the neural circuits controlling these parameters are at least partly shared and might include the basal ganglia. While the current study focused on the phonetic realization of prosodic cues, future studies should examine whether and how PD affects prosody at higher levels of processing.

Bignon, M., Mejias, S., & Casalis, S. (2024). Visual–verbal paired-associate learning: An investigation of the role of verbal and crossmodal associative learning in reading skills in French first- and second-grade children. *Journal of Educational Psychology*.

Abstract

Visual–verbal paired-associate learning (PAL) is thought to be related to reading acquisition and, more specifically, to word reading skills. To date, the uniqueness and strength of this relationship has remained unclear because most studies have been conducted in opaque orthographies such as English, and few studies have controlled for all of the strongest cognitive and linguistic predictors of reading acquisition. Critically, PAL is a complex task involving different components, and there is still no consensus on which is more involved, crossmodal associative learning or verbal learning, although the latter has received much support in the literature. The first aim of this study was to test the unique contribution of PAL in French, which has an intermediate level of orthographic transparency compared to other languages. The second aim of this study was to disentangle the mechanisms that account for this relationship. A battery of reading and reading-related tests as well as a visual–verbal PAL task were administered to 227 French children in first and second grade. The results showed that PAL makes a unique contribution to word reading in French, but not to nonword reading scores, over and above the strongest language predictors of reading: phonological awareness, rapid automatic naming, short-term phonological memory, vocabulary, and age. Our data do not support the putative involvement of the crossmodal associative learning mechanism. We therefore suggest that verbal learning explains the entire contribution of PAL.

[*See more here*](#)

Partnerships

Language team



Zoom on a partner

Language team



What is the LoLeMath platform?

- A **free** and **open-access online platform** developed by the Language Team of SCALab.
- Specifically designed for parents, teachers, and healthcare professionals, providing them with the tools and guidance needed to identify and respond to **learning difficulties** in children and students.
- Focuses on three key areas of **child development**: Oral Language (LO), Written Language (LE) and Mathematics (Math)
- Offers a range of ressources, observation tools, and screening materials based of scientific research to support **early detection and intervention**.
- Can be used at home, in the classroom, or in a clinical setting.



The website includes features to support inclusive navigation and reading, such as:

- A high-contrast display mode
- Keyboard-accessible navigation menus
- Dyslexia-friendly fonts

[*Visit the platform*](#)

Developed by:

- Sandrine Mejias, Associate Professor in Neuropsychology, Université de Lille, SCALab UMR 9193
- Lucie Macchi, Associate Professor in Speech-Language Pathology, Université de Lille, STL UMR 8163 (Université de Lille, CNRS)
- Sophie Ravez, Speech and Language Therapist



SCALab

Press interventions

Delphine Grynberg appeared on the show La Bande originale on France Inter, where she discussed fascinating topics such as empathy, alexithymia, and inhibition.



[Listen here](#)

On September 12, 2024, **Gwendoline Mahé**, a researcher at the University of Lille, was interviewed on ICI Nord to discuss her participation in a national study on reading and spelling difficulties among children. This research project, PRESAD, is funded by the French National Research Agency (ANR) and coordinated by Racha Zebib at the University of Tours, in collaboration with Lucie Macchi and other research teams in Lille, Tours, and Nantes.



This research aims to provide key insights into the factors influencing literacy acquisition and to develop evidence-based recommendations to better support children at risk of academic difficulties and improve early intervention strategies in education. During the interview, Gwendoline Mahé explained how this study follows children from their final year of kindergarten (Grande Section) through second grade (CE1) to identify early predictors of literacy challenges. She highlighted how differences in cognitive and linguistic skills at an early age can impact reading, spelling, and comprehension development.

[See more here](#)



SCALab

Press interventions



As part of the CAPES-COFECUB collaboration, **Cédric Bonnet** CNRS researcher at SCALab was featured in the Brazilian local television. His research, conducted in partnership with the Livia Laboratory at UNESP Bauru, investigates how body posture—standing or sitting—affects performance at work.

Using a driving simulator, researchers analyze body balance, as well as eye and head movements, in both positions. This study follows the same research approach as that developed at the University of Lille, with which UNESP has an ongoing collaboration agreement.

[*See more here*](#)

Kristopher Lamore recently shared his expertise in two key healthcare events. In June 2024, he contributed to Inspirons demain with an article, "Cancer: Croiser les regards" (p. 15), offering innovative perspectives on cancer care.

In July 2024, he joined the Quoi de neuf Santé ? podcast with RTL and Flavie Flament for an episode titled "Cancer, comment faire pour bien faire ?", discussing practical approaches to cancer care.



[*Read the article here*](#)

[*Listen to the episode here*](#)



SCALab

opens to the general public



Science and Philosophy



As part of the **CitéPhilo** conference series, **Yann Coello**, Professor at the University of Lille, gave a talk at the Auditorium des Beaux-Arts de Lille on the complexity of body representation. Addressed to an audience of philosophers, this conference provided an opportunity to introduce them to cognitive psychology research. From a perceptual, cognitive, and neural perspective, multiple forms of body representation coexist, shaping our sense of self, agency, and spatial awareness. These representations are essential for interacting with both our environment and others. During his talk, Yann Coello presented the latest behavioral and neurophysiological findings, offering insights into how these representations are formed and maintained, their role in daily life, and the severe impairments that can result from neurological disorders.

Transition Week : Being a caregiver

A study day was organized by **Charlotte Manceau** as part of the **University of Lille's Transition Week** on March 22, 2024, on the theme Being a Caregiver: A Social and Identity Transition. This event brought together researchers and healthcare professionals to explore the different dimensions of caregiving, as well as its social and identity-related challenges. The day featured a multi-speaker conference titled Caregiving Through Research: What Implications? (Antoine, P., Dobignies, M., Justin, P., Manceau, C., Wawrziczny, E.), as well as a roundtable moderated by experts on the topic Being a Caregiver in 2024: What Societal Challenges?, bringing together healthcare professionals involved in supporting caregivers.



SCALab

opens to the general public



Science & Beer !



On Wednesday, May 15, 2024, **Séverine Casalis**, a professor at the University of Lille specializing in cognitive and affective sciences and an expert in bilingualism, delivered an engaging lecture as part of the **Pint of Science France**. The event, which brings science and researchers out of laboratories and into city bars to engage with the public, took place in Lille. During her talk, Séverine Casalis explored the fascinating phenomenon of bilingualism, discussing what it means to be bilingual, the processes involved in learning and facilitating the acquisition of a foreign language, and the way the brain manages two or more languages. She also examined the cognitive and social impacts of multilingualism, explaining how speaking multiple languages influences brain function and shapes relationships with others. This event provided an opportunity for attendees to gain a deeper understanding of the cognitive mechanisms behind bilingualism and to reflect on the broader implications of language learning in an increasingly globalized world.

Theater : Cancer caregivers

A look back at a memorable evening co-organized with the Northern Committee of the **Ligue contre le Cancer**, dedicated to caregivers. The moving play *Les aidants du cancer* highlighted the challenges faced by caregivers of all ages supporting loved ones with cancer. The audience shared emotions and testimonies, making the evening even more authentic and touching.



Psychologist and researcher at SCALab, **Pauline Justin** actively contributed to the event, emphasizing the vital role of caregivers. Through laughter and tears, the evening, tied to National Caregivers Day 2024, kicked off a week of awareness for this cause. A big thank you to the company *La Belle Histoire* for their performance, to Annaëlle Reiser for her initiative, and to all the caregivers and patients who inspired this creation. Together, let's continue to support and value caregivers.

SCALab

consolidates its ethical positioning

December 6. Organization of the Research Ethics Committee Day at Plaine Images in Tourcoing



JOURNÉE DE LA FÉDÉRATION DES COMITÉS D'ETHIQUE DE LA RECHERCHE

**PROTÉGER SANS CIRCONSCRIRE
ENJEUX DE L'ÉVALUATION ÉTHIQUE DE LA
RECHERCHE DANS UNE SOCIÉTÉ EN TRANSITION**



ENTRÉE GRATUITE



VENDREDI 06 DÉCEMBRE 2024



8H30 - 17H



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CONFÉRENCES

Journée de réflexions et d'échanges, impliquant des chercheurs issus de disciplines diverses (psychologues, philosophes, linguistes, etc.)



ATELIERS

3 ateliers de réflexion sur des thématiques précises associées à des questions éthiques.



DISCUSSIONS

Alimenter la réflexion des membres des comités d'éthique, dans une démarche d'amélioration continue.

INFORMATIONS ET INSCRIPTION OBLIGATOIRE SUR
WWW.JOURNEE2024-FEDERATIONCER.UNIV-LILLE.FR

ACCÉDEZ AU
FORMULAIRE
D'INSCRIPTION !



Congrats

to the new doctors (2024)



April 18. Nahid BAKKALI's thesis defense.

Impact of Social Factors on Alcohol Consumption: Exploring Social Learning Deficits in Severe Alcohol Use Disorders



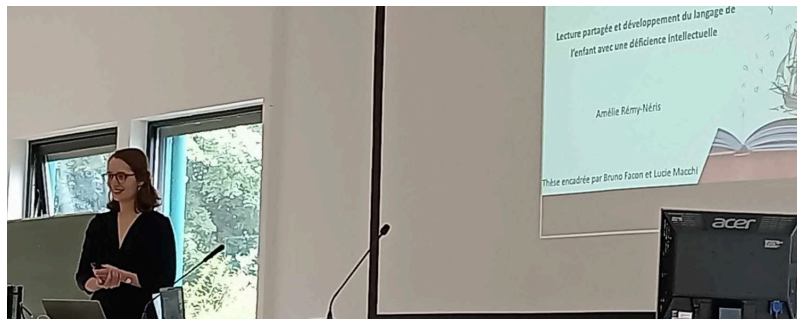
June 25. Matthieu BIGNON's thesis defense

Predictors of Decoding Acquisition in Newly Arrived Allophone Children: Focus on Visual-Verbal Paired-Associate Learning Abilities



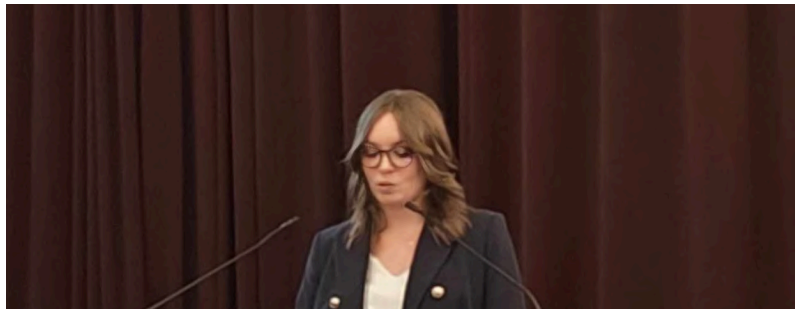
July 02. Charlotte MANCEAU's thesis defense.

Analysis of the Dynamics and Dyadic Processes Underlying the Experience of Couples Facing a Neurodegenerative Disease



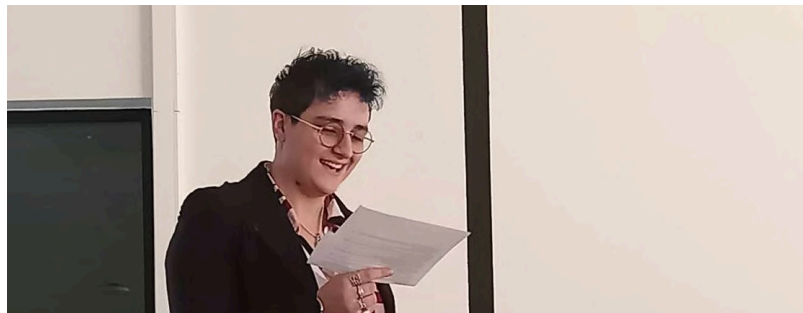
July 05. Amélie REMY-NERIS's thesis defense.

Shared Reading and Language Development in Children with Intellectual Disabilities



September 27. Fanny DEGOUIS's thesis defense

From Conduct Disorder to Antisocial Personality Disorder: Multi-Level Analyses of Emotional Processes During Autobiographical Memory Recall



November 29. Alicia FASQUEL's thesis defense

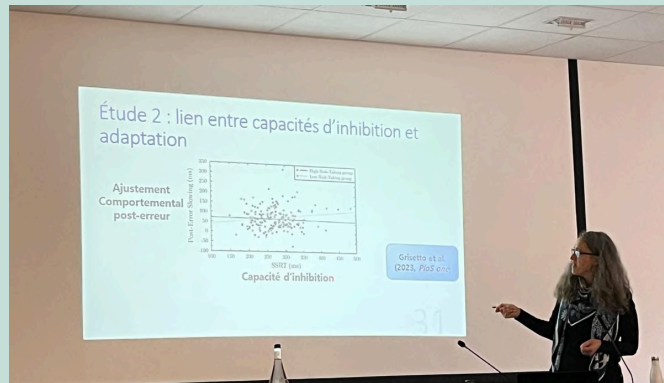
The impact of dialogue on the organisation in memory of lexico-semantic representations

November 29. Kelly SAINT-DENNY's thesis defense

Decision-Making and Adjustment in the Face of Uncertainty: Cross-Disciplinary Contributions from Psychology and Perinatal Medicine



Congrats to the new HDR (2024)



Congratulations to Dr. Clémence ROGER on obtaining her Habilitation à Diriger des Recherches (HDR) on September 30, 2024.

Exploring the Role of Cognitive Control in Behavioral Adaptation: Applications to Emotions, Reading, and Eco-Anxiety



Congratulations to Dr. Marie-Charlotte GANDOLPHE on obtaining her Habilitation à Diriger des Recherches (HDR) on October 10, 2024.

From Emotional Regulation Difficulties to Narrative Identity Disruption in Clinical Populations

Welcome

to the new doctoral students

BERBAIN Layla, team Language

BRUNET Clément, team AVA

BUTIN Paul, team AVA

CSIGAI Pierre, team DEEP

DEMEULENAERE Léa, team DEEP

LAGACY Alice, team DEEP

MAUPIN Céline, team DEEP

RUYANT BELABBAS Elena, team DEEP

RYCKEWAERT Elisa, team DEEP

Welcome to the new MCF



**Dorian
GOUYTES**

Exploring the Cognitive and Neural Mechanisms of Decision-Making and Metacognition

My research focuses on the cognitive and neural mechanisms underlying decision-making and metacognition, as well as their interactions with motor control. Through an interdisciplinary approach, I aim to address these topics by combining cognitive sciences, neuroscience, and computational modeling.

Methodologically, my work integrates human electrophysiology—with a particular emphasis on stereotactic invasive electroencephalography (sEEG) in epileptic patients—the use of diffusion models to represent decision-making processes, and behavioral tasks grounded in psychophysical methods.

This interdisciplinary and integrated approach is reflected in my academic background: After earning a Bachelor's degree in Physiology from the University of Montpellier, I pursued a research Master's in Cognitive Science at the Department of Cognitive Studies at ENS. I then obtained a PhD in Integrative Neuroscience from Sorbonne University, focusing on the development of bidirectional brain-machine interfaces incorporating sensory feedback based on optogenetics.

Today, my goal is to further explore decision-making and metacognition, with a particular focus on uncovering implicit markers of these cognitive processes in the motor domain through mouse-tracking, eye-tracking, and motion capture techniques.

Welcome

to the new post-doctoral researchers

Guillaume is currently working as a postdoctoral fellow with Séverine Casalis on the EcoLe ("S'ECOuter Lire") project. This interdisciplinary project combines diachronic linguistics (CLESTHIA and STIH teams) and psycholinguistics (SCALab) to study the evolution of reading practices in France from the 13th to the 18th century. SCALab contributes its expertise in psycholinguistics to assess the impact of correspondence between text formats and reading modalities on comprehension.



Guillaume CHEVET

Géraldine holds a PhD in neuroscience from the University of Strasbourg, which she completed in 2020. Her research work focused on the molecular mechanisms underlying the effects of adverse perinatal experiences on pain responses and psychiatric vulnerability in adulthood. Currently a postdoctoral researcher under the direction of Dr Kristopher Lamore, she is involved in the EN-HOPE SMART4CBT interventional research project (PEDIACRIEX consortium, funded by the French National Cancer Institute). This project aims to improve the quality of life and psychosocial support of children with brain tumors and their parents.



Géraldine GAZZO

Bing Li is a post-doctoral researcher in collaboration with Tatjana Nazir. With a keen interest in language development, reading, word processing, human-robot interaction, and natural language processing (NLP). From 2024 to 2026, he and Tatjana are contributing to an Prematuration project for CNRS Innovation.

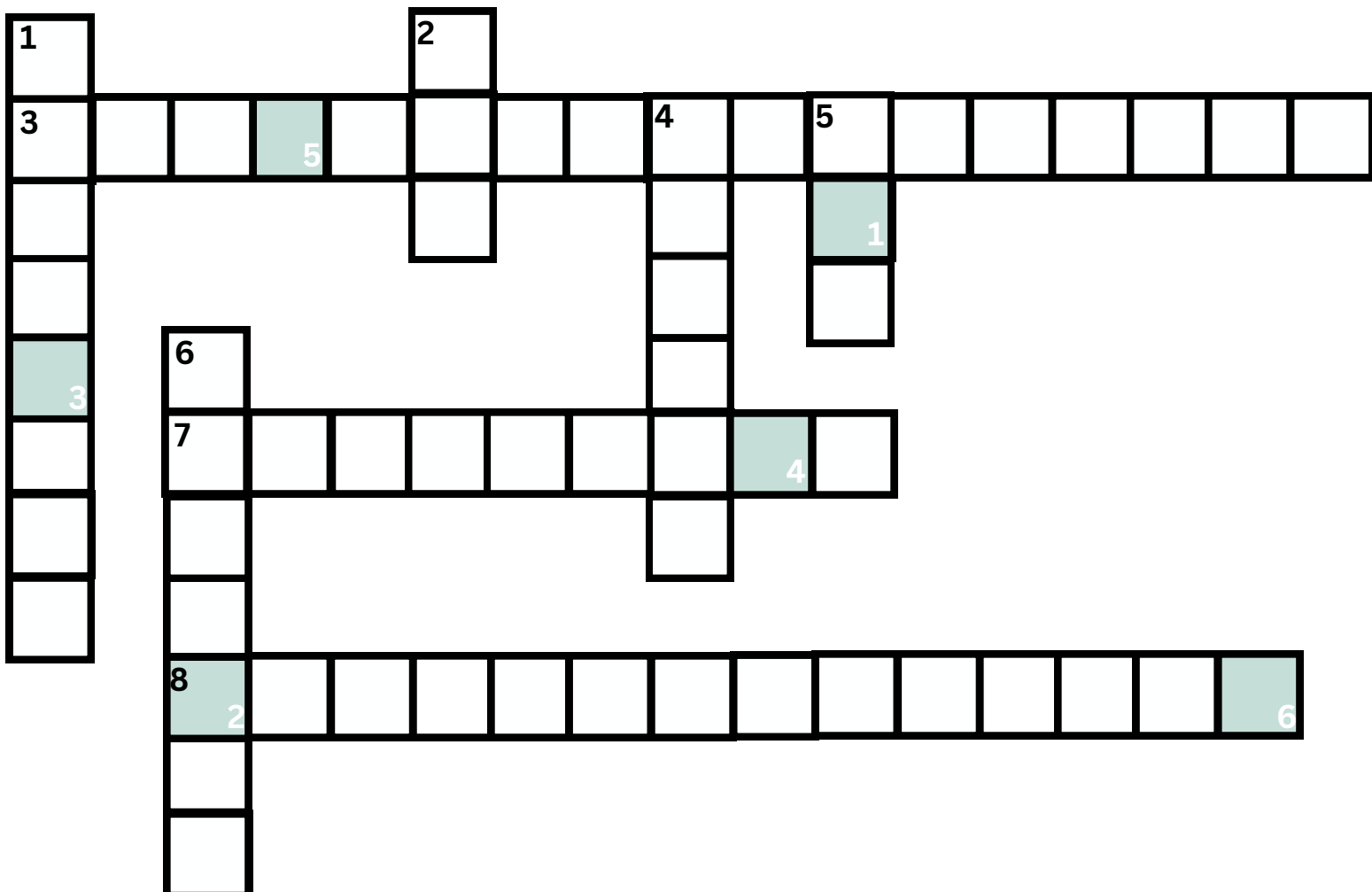


Bing LI

Crossword

SCALab

Welcome to the crossword puzzle! The objective is to find the words using the provided definitions. Additionally, there is a hidden word in this crossword. To discover this hidden word, you need to take the 6 letters from the green cells. Good luck and have fun!



DEFINITIONS

HORIZONTAL

3 - Adjective describing SCALab, where meetings and documents mix so many disciplines you need a glossary.

7 - Those mysterious entities that always find a mistake, even where there isn't one.

8 - The lab has over 115 of them internationally... that's as many chances of having to schedule a meeting at 7 AM or 10 PM, depending on the time zone.

VERTICAL

1 - Social network where you can find all the latest news from the lab, in between two posts on leadership and a job offer asking for 10 years' experience for an internship.

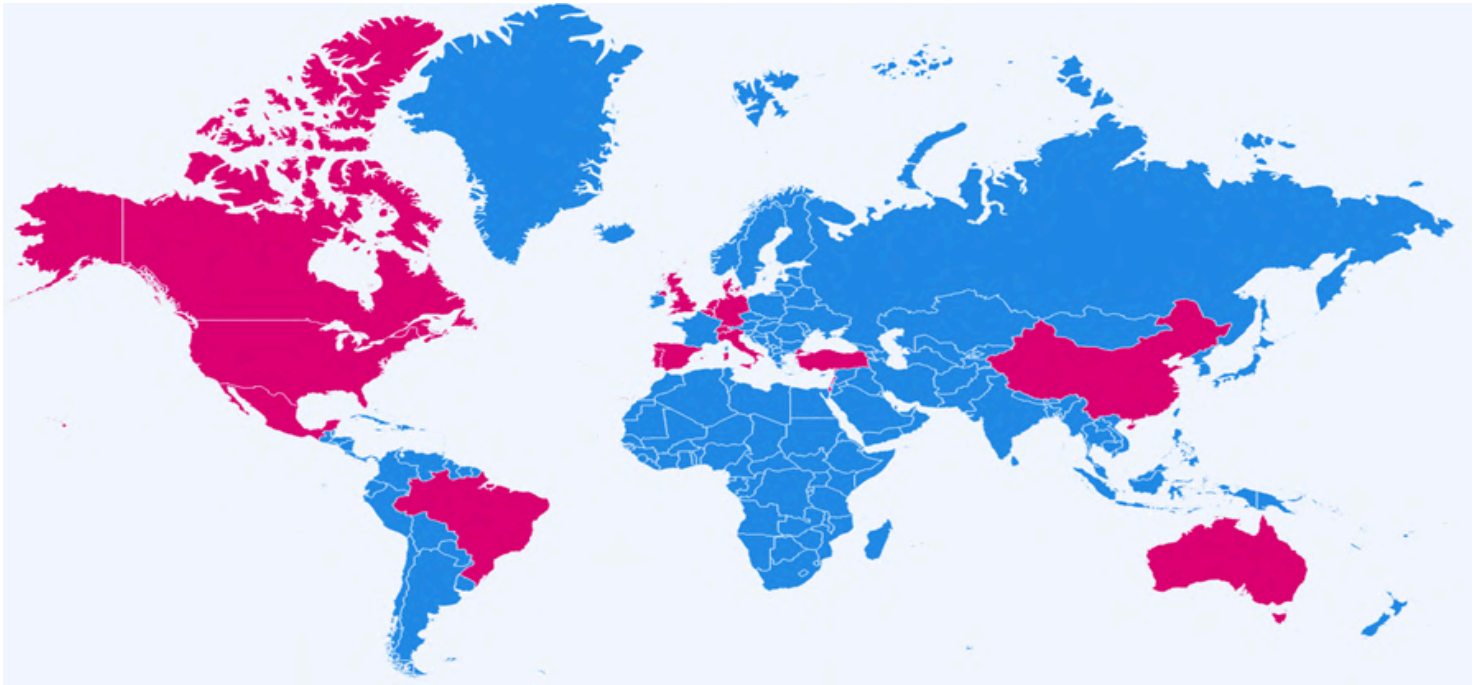
2 - A rite of passage to prove that you've survived enough projects to manage those of others.

4 - The magical productivity elixir, consumed in industrial quantities to avoid (post-lunch) naps.

5 - A diploma that mysterious beings with uncertain sleep, living between the "Point Virgule" and the office, are trying so hard to obtain.

6 - A text that takes far too long to read, and was *not obtained at all* thanks to SciHub.

International Collaborations



Australia, Belgium, Brazil, Canada, China, Denmark, Germany, Israel, Italy, Lebanon, Luxembourg, Mexico, Netherlands, Portugal, Singapore, Spain, Switzerland, Turkey, United Kingdom, USA

TEAM YEARBOOK 2024



Marine

Ambre

Nicolas

Sabah

