Oral | Development, Clinical

Fri. Oct 17, 2025 3:30 PM - 5:00 PM JST | Fri. Oct 17, 2025 6:30 AM - 8:00 AM UTC Venue 1(Room 1)

[O2] Oral 2: Decelopment, Clinical

Chair:Rafael Román-Caballero(Universidad de Granada & McMaster University)

3:30 PM - 3:45 PM JST | 6:30 AM - 6:45 AM UTC

[O2-01]

“Past is Present, and Present is Past for Me": A case report of a 21-year-old female with autism spectrum disorder and enhanced episodic memory

*Ryuta Ochi[1,2], Shigeru Kitazawa[3], Mitsuru Kawamura[2] (1. Department of Psychology, Graduate School of Letters, CHUO University (Japan), 2. Division of Neurology, Department of Internal Medicine, School of Medicine, Showa Medical University (Japan), 3. Dynamic Brain Network Laboratory, Graduate School of Frontier Biosciences, The University of Osaka (Japan))

3:45 PM - 4:00 PM JST | 6:45 AM - 7:00 AM UTC

[O2-02]

Time attitudes and psychological distress: Exploring the interface between temporal representation and affect

*Thiago Bonifácio[1], André Mascioli Cravo[1] (1. Federal University of ABC (Brazil))

4:00 PM - 4:15 PM JST | 7:00 AM - 7:15 AM UTC

[O2-03]

Victims living in the now: A developmental glimpse on time perspectives through a criminological lense

*Sebastian L. Kübel[1,2,3] (1. University of Bern (Switzerland), 2. Max Planck Institute for the Study of Crime, Security and Law (Germany), 3. University of Leiden (Netherlands))

4:15 PM - 4:30 PM JST | 7:15 AM - 7:30 AM UTC

[O2-04]

Visual attention of infants in early interactions: Comparing early processing of music and language

*Rafael Román-Caballero[1,2], Maya Psaris[2], Betania Y. Georlette[3], Mohammadreza Edalati[3], Barbara Tillmann[4], Sahar Moghimi[3], Gabriel (Naiqi) Xiao[2], Laurel J. Trainor[2], Juan Lupiáñez[1] (1. Universidad de Granada (Spain), 2. McMaster University (Canada), 3. Université de Picardie (France), 4. Université de Bourgogne (France))

4:30 PM - 4:45 PM JST | 7:30 AM - 7:45 AM UTC

[O2-05]

Visual causality detection capabilities in individuals treated for prolonged early-onset blindness

*Marin Vogelsang[1], Lukas Vogelsang[1], Priti Gupta[2], Stutee Narang[2], Purva Sethi[2], Suma Ganesh[2], Pawan Sinha[1] (1. MIT (United States of America), 2. Dr Shroff’s Charity Eye Hospital (India))

4:45 PM - 5:00 PM JST | 7:45 AM - 8:00 AM UTC

[O2-06]

Performance of late-sighted children on the temporal order judgement task

*Lukas Vogelsang[1], Priti Gupta[2], Marin Vogelsang[1], Naviya Lall[2], Manvi Jain[2], Chetan Ralekar[1], Suma Ganesh[2], Pawan Sinha[1] (1. MIT (United States of America), 2. Dr Shroff’s Charity Eye

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“Past is Present, and Present is Past for Me": A case report of a 21-year-old female with autism spectrum disorder and enhanced episodic memory

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Introduction:
Some individuals with Autism Spectrum Disorder (ASD) experience sudden recall of past events, known as the “time-slip phenomenon." This phenomenon has been reported in individuals with ASD who show preserved intellectual function and exceptional memory abilities (Sugiyama 1994, 2016). Here, we report the case of a 21-year-old female with ASD and enhanced episodic memory who exhibited a unique perception of time passage.
Case Information:
The patient was a 21-year-old right-handed university student. She had a history of eating disorders since age 16 and was diagnosed with ASD at 21. Since high school, she had noticed her time perception differed from others. She described two main features: 1) past events appeared as discrete, isolated episodes, not as a continuous flow; and 2) past events felt as if they were occurring in the “present.' She also experienced involuntary, immersive recollections, as if reliving those scenes. Results:
Neuropsychological testing revealed above-average intelligence on the WAIS-Ⅳ (Full IQ: 136, VCI: 122, PRI: 118, WMI: 131, PSI: 149) and above-average memory performance on the WMS-R (General Memory: 128, Verbal Memory: 128, Visual Memory: 112, Attention: 116, Delayed Recall: 125). In a task requiring memorization of numbers randomly placed in 52 squares (Luria 1968), she encoded them within ten minutes and recalled 85% after one month. In a McTaggart’ s A series task (Tang et al. 2021; Futamura et al. under review), she correctly recognized tense differences but classified both past and future sentences as close to the "present," disregarding temporal distance. Discussions:
The patient had difficulty sensing the flow of time and distinguishing past from present. Her strong episodic memory suggests that insufficient forgetting—potentially associated with persistent focus on outdated memories and reduced adaptability (Awasthi et al., 2019)—may also disrupt the normal perception of time passage from past to present.

Keywords: perception of time passage, autism spectrum disorder, episodic memory

Time attitudes and psychological distress: Exploring the interface between temporal representation and affect

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This study explored the relationships between time-related attitudes, emotion regulation strategies, and psychological distress in a Brazilian sample (N = 625) using online self-report measures. Participants completed the Adolescent and Adult Time Attitudes Scale, Time Meaning and Metaphors Questionnaires, Regulation of Emotion Systems Survey, and the Depression, Anxiety, and Stress Scale (DASS-21). Bootstrapped correlation analyses showed strong positive associations between negative time attitudes, rumination, and psychological distress, especially depression. Present-negative attitudes were most strongly linked to depressive symptoms ($r = 0.62$, $p < .05$), along with general negative views of time (Meaning: $r = 0.48$; Metaphors: $r = 0.33$; $ps < .05$). In contrast, positive time attitudes correlated negatively with distress and positively with cognitive reappraisal ($r = 0.28$, $p < .05$). Random Forest regression analyses predicted psychological outcomes with modest accuracy: $R^2 = 0.24$ for anxiety (RMSE = 3.57), 0.50 for depression (RMSE = 3.91), and 0.27 for stress (RMSE = 3.46), all outperforming baseline models. Feature importance analyses identified key predictors: For anxiety: past-negative attitudes, age, and negative time metaphors. For depression: present-negative and present-positive attitudes, and general affective time evaluations. For stress: present-negative attitudes, affective time evaluations, and rumination. These results highlight the relevance of time attitudes, especially those related to the present, in the psychological well-being of adults. We suggest that time attitudes likely reflect rather than cause distress. Based on our findings, we propose two hypotheses: (1) the early marker hypothesis, where negative time attitudes may precede other symptoms; and (2) the open-window hypothesis, where time-related attitudes or beliefs offer a less stigmatizing path to early mental health interventions.

Keywords: Time attitudes, Psychological distress, Emotion regulation, Mental health

Victims living in the now: A developmental glimpse on time perspectives through a criminological lense

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The prioritization of the present has for long been considered in Criminology as the most important individual-level predictor of crime. However, time perspectives were proposed as a relatively stable personality trait. Therefore, the discipline has neglected the investigation of factors that shape such a present orientation.

Inspired by current developments in psychology, this work set out to identify environmental factors that contribute to increases in present orientation. This is done using longitudinal data from a big representative sample of Swiss adolescents.

The results identify that victims of violent crimes report more present orientation and decreased future orientation. Mediation analyses show that these changes in time perspective in response to victimization are, in turn, associated with an increased risk to commit crime.

The prioritization of the present can thus explain the prominent criminological observation that victims are more likely to offend themselves. Peer processes following victimization appear to promote the increased focus on the present. Revealing these mechanisms in the development of time perspectives that contribute to crime can inform practical interventions to reduce crime.

Keywords: time perspective, present orientation, development, crime, person-environment interactions, longitudinal structural equation models

Visual attention of infants in early interactions: Comparing early processing of music and language

*Rafael Román-Caballero[1,2], Maya Psaris[2], Betania Y. Georlette[3], Mohammadreza Edalati[3], Barbara Tillmann[4], Sahar Moghimi[3], Gabriel (Naiqi) Xiao[2], Laurel J. Trainor[2], Juan Lupiáñez[1]

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Given the immature cognitive development of newborns, caregivers naturally engage with them using distinctive ways of speaking and singing, with modified acoustic characteristics compared to adult-directed productions. These early interactions play a crucial role in building emotional and social connections and language development, although the core aspects of such interactions between infants and caregivers remain understudied. Recent evidence suggests that the rhythm of infant-directed (ID) songs helps guide infants' attention to emotionally and socially relevant facial regions. In fact, infants are more likely to look at the caregiver's eyes at the time of the strong beats of the song. In the present longitudinal study, we examined the extension of this phenomenon to ID speech and ID songs in native and non-native languages with different rhythmic patterns (stress-timed vs. syllable-timed languages; e.g., English and Spanish) throughout the first year of life (at 4, 6, and 12 months of age). Eye tracking while infants watched videos of ID speaking and singing revealed that four-month-olds' eye movements were entrained to temporal regularities in both ID songs and ID speech, in native and non-native languages. Time histograms showed that infants were more likely to look at the eyes during the beat/stressed vowels. In addition, we observed oculomotor tracking of the ID productions with time response function models. We are now examining how this rhythm tracking changes when infants are 6 and 12 months old, and how it relates to electroencephalography measures of auditory rhythm tracking. This study contributes to our understanding of the role of auditory and visual rhythmic entrainment in early language acquisition and social-affective skills.

Keywords: infant-directed singing, infant-directed speech, rhythm, visual attention, eye-tracking

Visual causality detection capabilities in individuals treated for prolonged early-onset blindness

*Marin Vogelsang[1], Lukas Vogelsang[1], Priti Gupta[2], Stutee Narang[2], Purva Sethi[2], Suma Ganesh[2], Pawan Sinha[1]

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The ability to identify causal relationships between visual objects critically depends on the detection of temporal regularities in the environment. Albert Michotte’ s pioneering studies demonstrated that certain relationships between visual events lead observers to perceive them as causally linked. The ability to attribute causality in such displays emerges early in development. This raises important questions about the roots of this proficiency. Specifically, does this capacity depend on early visual experience with inter-object interactions, or is it resilient to prolonged early-onset visual deprivation? Here, we studied a unique group of children from rural India who were born blind and received sight-restoring surgeries late in childhood. These children viewed animations akin to Michotte’ s, designed to assess their ability to discriminate causal from non-causal interactions. Stimuli included one causal event ("direct launching", where one moving disk hits another, causing it to immediately continue along the same trajectory) and three non-causal events, introducing a spatial gap, a temporal gap, or both between the disks. Participants viewed one causal and one non-causal animation and selected the sequence depicting the causal interaction. Results reveal low performance immediately post-surgery but rapid and marked improvements within the first postoperative month. Interestingly, a similar trajectory of rapid improvement was observed in a separate experiment conducted with the same children, probing their sensitivity to the Gestalt principle of common fate, in which they judged the direction of visual elements moving together. To sum, these findings highlight the resilience of visual causality detection based on temporal regularities to early-onset visual deprivation, underscore the remarkable plasticity of the visual system into late childhood, and suggest a possible role for temporal processing in facilitating rapid visual development post-surgery.

Keywords: causality detection, spatiotemporal processing, late sight onset, congenital blindness

Performance of late-sighted children on the temporal order judgement task

*Lukas Vogelsang[1], Priti Gupta[2], Marin Vogelsang[1], Naviya Lall[2], Manvi Jain[2], Chetan Ralekar[1], Suma Ganesh[2], Pawan Sinha[1]

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Determining whether visual events occur simultaneously or sequentially critically impacts perceptual inference. Simultaneity has been shown to aid object discovery, a capacity essential for newborns in making sense of their sensory environment. Here, we examined whether early visual experience is necessary to acquire temporal order judgment capabilities in the visual domain. To this end, we studied individuals with prolonged visual deprivation due to congenital cataracts who received sight-restoring surgeries later in childhood. We examined two groups: 15 late-sighted individuals assessed several years after surgery, and 13 tested pre-operatively, then one week and one month post-operatively. Additionally, 22 normally sighted, approximately blur-matched controls completed the same experiment. Participants indicated which of two briefly presented visual bars appeared first, with temporal gaps between 17 and 500ms. The results reveal that, several years post-surgery, late-sighted participants performed comparably to controls. However, performance one week and one month following surgery was indistinguishable from pre-operative levels and remained significantly below that of the long-term follow-up group. Thus, proficiency in temporal judgments develops gradually with continued visual exposure. The data also suggest that the mechanism of time-based binding may contribute to the visual learning that the late-sighted undergo. Taken together, these findings reveal that early experience is not critical for acquiring temporal order judgment capabilities and highlight the feasibility of acquiring such capabilities despite early-onset, prolonged visual deprivation. This indicates that neural plasticity for developing this ability remains available into late childhood, with important implications for understanding temporal processing, perceptual organization, and rehabilitation prospects for children treated for early blindness.

Keywords: temporal order judgements, simultaneity, late sight onset, congenital blindness, temporal processing