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Neuropsychological *Trends*

The **Neuropsychological Trends** publishes original contributions to scientific knowledge in neuropsychology and neuroscience, and it provides an interdisciplinary forum on new trends on neuropsychology and psychophysiology. There is a growing dissatisfaction with fragmentation in theoretical perspectives on neuropsychology and without doubt there is a felt need for a journal containing articles which aim to integrate these fragmented ideas, theories and methods. We place particular emphasis on the fact that informed discussion of neuropsychology needs to be interdisciplinary.

The journal aims to introduce new ideas on the field of biological bases of behaviour and of the neurological perspectives applied to psychological processes. Specifically it intends to offer an ample space for innovative research methodologies and new theoretical views on the neuropsychological discipline. Methodological discussion will constitute a main topic of the journal. Specific attention will be given to the development of new theories and/or research methodologies applicable to group and single-case studies.

The journal is interested in basic and applied research and aims at opening up new avenues for the understanding, explaining, and treatment of neuropsychological issues. Specifically, **Neuropsychological Trends** will consider articles from any area of neuropsychological and neuroscience research, including, but not limited to: cognitive neuropsychology, clinical neuropsychology, neurophysiology, psychophysiology, and research techniques (fMRI; ERPs, PET).

The main topics proposed are:

- sensation and perception
- consciousness
- learning and memory
- communication and language
- motivation and emotion
- methodology of research (electroencephalography; brain imaging; behavioural measures)

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PROCEEDINGS - ABSTRACTS

<i>Program</i>	23
SYMPOSIA ABSTRACTS	
<i>Avenanti A.</i>	
Social brain and recurrent connections	27
<i>Bisio A.</i>	
Motor cognition in healthy and pathological aging: a study on motor imitation in Alzheimer's Disease	28
<i>Bonfiglio L.</i>	
Blink-related EEG: a look into consciousness	29
<i>Bove M.</i>	
Temporal aspects of action observation in sport	30
<i>Brambilla M.</i>	
Neuroenhancement of memory in aging: the potential of transcranial Direct Current Stimulation	31
<i>Cesari P.</i>	
I know what you will do: action anticipation in elite athletes	31
<i>Crivelli D.</i>	
Electrophysiological markers and cognitive profile in aging: implications for screening and intervention	32

<i>Della Libera C.</i>	
Reward-based plasticity of visual selective attention	33
<i>Ferrucci R.</i>	
Creativity in neurological disorders	34
<i>Galfano G.</i>	
Attention orienting in the presence of social stimuli	35
<i>Gemignani A. - Laurino M. - Menicucci D.</i>	
Sleep unconsciousness is paradoxically induced by fragments of wakefulness	36
<i>Massimini M.</i>	
Towards an objective assessment of the capacity for consciousness	37
<i>Milani L. - Grumi S. - Di Blasio P.</i>	
Web-mediated addictions: from Internet Addiction to Gaming Addiction	37
<i>Pace U.</i>	
Personality and cognitive biases discriminating late adolescents as regular gamblers	38
<i>Panasiti M.S. - Ponsi G. - Monachesi B. - Aglioti S.M.</i>	
Guilt and reward shape the neural correlates of spontaneous deception	39
<i>Perini R.</i>	
Physiological response to physical activity: physical and brain fitness as integrated adaptations	40
<i>Pietrini P. - Pellegrini S. - Ferracuti S. - Sartori G.</i>	
Genes, brain and behavior: is there a Functional Frontal Fragility condition?	41
<i>Porro C.A. - Lui F.</i>	
Neuroimaging of the placebo effect	42
<i>Ricciardi E. - Bernardi G. - Cecchetti L. - Pietrini P.</i>	
It's not all in your car! The efficient brain of professional car racers	43
<i>Riva P.</i>	
Brain mechanisms to regulate reactions to social exclusion	44
<i>Sellitto M.</i>	
Moral judgment as an intertemporal choice	45

<i>Tamietto M. - Celeghin A.</i>	
Neural and psychophysiological correlates of basic and social emotions recognition	45
<i>Torta D.M.</i>	
Visuo-spatial modulation of pain	46
<i>Urgesi C.</i>	
Top-down modulations of motor resonance to social stimuli	47
ORAL AND POSTER PRESENTATIONS ABSTRACTS	
<i>Affilastro A.</i>	
Hemo-Encephalography training to prevent relapse among elderly sex offenders: a pilot study proposal	49
<i>Amoruso L. - Finisguerra A. - Urgesi C.</i>	
Virtual lesions of pMTG and dlPFC modulate facilitatory and inhibitory (in)congruity effects on motor resonance during the observation of context-embedded actions	50
<i>Angioletti L. - Akkersdijk A. - Hallegraeff J. - Janssen W. - Knops L.</i>	
<i>Lautermann K. - Milev C. - Schepers R.</i>	
Hungry or stressed? Relationship between stress and attention for food-related words	51
<i>Angioletti L. - Schroder E. - Campanella S.</i>	
Event-Related Potential and tDCS application in the inhibitory control study	53
<i>Bagattini C. - Pellicciari M.C. - Fracassi C. - Miniussi C.</i>	
<i>Bortolotto M.</i>	
Linking connectivity alterations with cognitive decline in Alzheimer's Disease: the contribution of TMS-EEG coregistration	53
<i>Bagnis A. - Spadaro G. - Celeghin A. - Mosso C.O. - Tamietto M.</i>	
Functional neuroanatomy of racial bias in visual perception: a meta-analytic study	54
<i>Balconi M. - Pala F. - Vanutelli M.E. - Venturella I. - Salati E.</i>	
<i>Ripamonti S.C. - Natili F.</i>	
Neurophysiology of management communication: a pilot hyperscanning study	55
<i>Balconi M. - Vanutelli M.E.</i>	
The cooperative social brain: EEG/fNIRS hyperscanning during a joint performance	56

<i>Banfi S. - Meazza F.</i>	
Post-anoxic coma outcomes: comparison between two cases	57
<i>Basile F. - Calcagnì A. - Tagliente F. - Invitto S.</i>	
Smell and 3D haptic shapes	57
<i>Benedezù M.</i>	
Cognitive profile of childhood idiopathic epilepsy	58
<i>Berchicci M. - Quinzi F. - Bianco V. - Perri R.L. - Vannozzi G.</i>	
<i>Di Russo F.</i>	
Getting ready to walk: combining neuromotor control and peripersonal/extrapersonal space	59
<i>Betti V. - Corbetta M. - de Pasquale F. - Romani G.L. - Della Penna S.</i>	
Beta-band as hallmark of functional architecture correspondence between rest and movie viewing	60
<i>Bianchi M.</i>	
Physiological cognitive aging and prevention in life contexts: a project of cognitive enhancement addressed to elderly users of the area 2 territorial social service in Milan	61
<i>Biggio M. - Bisio A. - Ruggeri P. - Bove M.</i>	
The Hand Blink Reflex in fighting sports	62
<i>Bocci T. - Ferrucci R. - Di Rollo A. - Parenti L. - De Rosa A.</i>	
<i>Barlocchio D. - Priori A. - Sartucci F.</i>	
Cerebellum and the defensive peripersonal space	63
<i>Bollini A. - Sanchez-Lopez J. - Savazzi S. - Marzi C.A.</i>	
The nature of visual experience in blindsight type II: evidence from EEG in a hemianopic patient	64
<i>Boni C.D. - Conforti J. - Saviola D. - Basagni B. - De Tanti A.</i>	
Return to safe driving after severe brain injury: a case study	65
<i>Bossi F. - Gallucci M. - Ricciardelli P.</i>	
Exclude the Emo: how social exclusion modulates social information processing	66
<i>Brighenti S. - Zerbini L.</i>	
Mild Cognitive Impairment: a brief review and a clinical analysis	67
<i>Briscese L. - Bonfiglio L. - Rossi B. - Carboncini M.C.</i>	
Is there a relation between P300 and behavioural scales in the assessment of patients with Disorders of Consciousness?	68

<i>Bruno V. - Fossataro C. - Garbarini F.</i>	
Inhibition or facilitation? Modulation of corticospinal excitability during Motor Imagery	69
<i>Bufalari I. - Porciello G. - Minio-Paluello I. - Mannetti L.</i>	
<i>Aglioti S.M.</i>	
Self-construal predicts the illusory feeling of “owing the other’s face” via other-oriented traits	70
<i>Burin D. - Fossataro C. - Pia L. - Garbarini F.</i>	
The sense of agency affects defensive responses: modulation of the corticospinal excitability during self-generated and other-generated pain	71
<i>Busan P. - Del Ben G. - Russo R. - Formaggio E. - Monti F.</i>	
<i>Manganotti P. - Battaglini P.P.</i>	
Cortical reactivity and cortico-cortical interactions in Persistent Developmental Stuttering investigated by TMS/EEG co-registration	72
<i>Cancer A. - Monti F. - Antonietti A.</i>	
A rhythmic intervention to improve reading skills in dyslexic adults: evidence from a single case study	73
<i>Cappagli G. - Finocchietti S. - Baud-Bovy G. - D'Ausilio A.</i>	
<i>Badino L. - Gori M.</i>	
Assessing and rehabilitating social competence in visually impaired children	74
<i>Caria A.</i>	
Neuropsychological assessment and cognitive rehabilitation in patients with cerebral cancer: a case report	75
<i>Cattaneo L. - Barchiesi G. - Ferri A. - Bianchi B.</i>	
Cortical representation of facial and masticatory voluntary movements: a magnetoencephalographic study	75
<i>Cecchetti L. - Handjaras G. - Leo A. - Papale P. - Martini N.</i>	
<i>Della Latta D. - Cappello E. - Chiappino D. - Pietrini P. - Ricciardi E.</i>	
Different degrees of sensitivity and specificity to speech comprehension within the language network	76
<i>Celeghin A. - Diano M. - Costa T. - Adenzato M. - Mosso C.</i>	
<i>Weiskrantz L. - de Gelder B. - Tamietto M.</i>	
Psychophysiological mechanisms guiding recognition of basic and complex emotions without visual cortex	77

<i>Celli C.F. - Balconi M. - Leanza F.</i>	
Effects of personality traits during the exploration of museum spaces: cerebral (EEG) and autonomic (Biofeedback) responses	78
<i>Chirico A. - Cypresso P. - Riva G. - Gaggioli A.</i>	
Psychophysiological correlates of complex spherical awe stimuli: a comparison with a conventional induction technique	79
<i>Ciaramidaro A. - Toppi J. - Casper C. - Freitag C.</i>	
<i>Siniatchkin M. - Astolfi L.</i>	
Two-Person Neuroscience: multi-brain connectivity during dual exchange	80
<i>Cinquegrani R.</i>	
Cognitive and behavioral deficits in Multiple Sclerosis: a case report	81
<i>Cypresso P.</i>	
Parsing psychophysiological correlates of mental stress using computational psychometrics	82
<i>Colombo R.</i>	
Specific Learning Disabilities: a neuropsychological diagnostic process	83
<i>Di Caro V. - Gottini J. - Dinoi G. - Scoppettone A. - Caregaro L.</i>	
<i>Mapelli D. - Amodio P. - Schiff S.</i>	
Combining DC stimulation and cognitive training to modulate food-craving and subjective values of unhealthy food: a tDCS/NIRS study	84
<i>Di Russo F. - Bianco V. - Berchicci M. - Spinelli D. - Perri R.L.</i>	
Links between stimulus-related insular activity and awareness	85
<i>Era V. - Gandolfo M. - Sacheli L.M. - Candidi M.</i>	
The left anterior IntraParietal Sulcus plays a causal role in supporting human-human joint-actions: an rTMS study on freely interacting individuals	86
<i>Errante A. - Di Cesare G. - Fasano F. - Costi S. - Sghedoni S.</i>	
<i>Bressi B. - Volpe V. - Ferrari A. - Fogassi L.</i>	
Modulating the motor system by action observation in right Hemiplegic Cerebral Palsy: an fMRI study	87
<i>Erro R. - Marotta A. - Tinazzi M. - Frera E. - Fiorio M.</i>	
On the perceptual drift of the fake hand during the Rubber Hand Illusion	89

<i>Esposito R. - Magnago D. - Agosta S. - Battelli L.</i>	
Improving sustained attention in elderly: a tRNS preliminary study	90
<i>Falciati L. - Marelli G. - Gobbo M. - Maioli C.</i>	
Effects of Neuromuscular Electrical Stimulation on the excitability of the Corticospinal System	91
<i>Ferrara S. - Inzaghi M.G.</i>	
Assessment of behavioral disorders through BIRT test	92
<i>Fertonani A. - Pirulli C. - Miniussi C.</i>	
The effect of intensity in visual cortex neuromodulation: a tDCS study	93
<i>Finisguerra A. - Amoruso L. - Makris S. - Urgesi C.</i>	
Relative contribution of Mirror-Neuron and Mentalizing System areas to motor mapping of deceptive actions	94
<i>Fiorio M. - Corsi N. - Emadi Andani M. - Tinazzi M.</i>	
The nocebo effect in motor performance: the role of treatment perception and personality traits	95
<i>Fonte C. - Munari D. - Venturelli M. - Pedrinolla A. - Benetti M.</i>	
<i>Gandolfi M. - Rudi D. - Varalta V. - Schena F. - Smania N.</i>	
Effectiveness of physical exercise on balance and falls in people with Mild Cognitive Impairment and Alzheimer's Disease	96
<i>Fonte C. - Venturelli M. - Pedrinolla A. - Munari D. - Benetti M.</i>	
<i>Gandolfi M. - Rudi D. - Varalta V. - Schena F. - Smania N.</i>	
Effects of physical activity on cognitive performance in Mild Cognitive Impairment and mild to moderate Alzheimer's Disease patients	97
<i>Formaggio E. - Cudia P. - Turco C. - Paggiaro A. - Piccione F.</i>	
Quantification of MEG power changes after M1-tDCS stimulation in a patient with Hereditary Spastic Paraparesis	98
<i>Fossataro C. - Ronga I. - Bruno V. - Loiacono B. - Bosso E.</i>	
<i>Neppi Modona M. - Garbarini F.</i>	
Visuomotor Prismatic Adaptation modulates tactile perception in healthy subjects	99
<i>Fusaro M. - Tieri G.</i>	
Visual perspective changes subjective and psychophysiological reactivity to the virtual pain and pleasure on self and others	100

<i>Fusco A. - Siri C.</i>	
Mood fluctuations in Parkinson Disease: the effect of dopamine replacement therapy	101
<i>Galletto V. - Dimitri D. - De Filippis D. - Zettin M.</i>	
Combined use of transcranial Direct Current Stimulation and psycho-sensory stimulation in a patient with severe disorder of consciousness	102
<i>Garbarini F. - Cecchetti L. - Bruno V. - Fossetaro C. - D'Agata F.</i>	
<i>Sacco K. - Ricciardi E. - Berti A.</i>	
The functional role of ventral Premotor Cortex in motor monitoring of voluntary actions: an fMRI study during mechanic limb immobilization	103
<i>Gatti L. - Vanutelli M.E.</i>	
Sex differences in cooperation: an hyperscanning study	104
<i>Giana A. - Maietti A.</i>	
Rehabilitation of Global Amnesia: study case	105
<i>Giana A. - Moroni F. - Canesi M. - Rusconi M.L.</i>	
Artistic creativity in Parkinson Disease: a single case follow-up study	106
<i>Gianfranchi E. - Sarlo M. - Tagliabue M.</i>	
Body and mind in driving abilities: how electrodermal correlates can explain the improvement of hazard perception in a virtual training	107
<i>Giovannelli F. - Rossi S. - Borgheresi A. - Zaccara G. - Avanzini G.</i>	
<i>Viggiano M.P. - Cincotta M.</i>	
Effects of music reading on motor cortex excitability	108
<i>Grippa E. - Vanutelli M.E. - Cotelli M. - Rossi R. - Balconi M.</i>	
A pilot study of neurofeedback intervention modulates cortical activity during emotional experience in schizophrenic patients: fNIRS and EEG data	109
<i>Iazzolino B. - Calvo A. - Canosa A. - Moglia C. - Chiò A.</i>	
Cognitive deficits in Amyotrophic Lateral Sclerosis: is there a worsening in cognitive status? A brief review and a illustrative case	110
<i>Invitto S. - Capone S. - Montagna G. - Piraino G.</i>	
<i>Mignozzi A. - Mazzatorta A.</i>	
Olfactive Event Related Potentials and Volatile Organic Compound: from physiological response to olfactory perception	111

<i>Inzaghi M.G. - De Tanti A. - Quarenghi A.M. - Salvi G.P.</i>	
Neuropsychological intervention and recovery of a higher level of consciousness after 5 years: a single-case report	112
<i>Lauretta L.</i>	
Effects of neuropsychological rehabilitation with holistic approach on a patient with severe acquired brain injury: a case report	113
<i>Leanza F. - Frigerio A. - Balconi M.</i>	
Biological cosmetic products: difference between consumers' thoughts and perceptions about biological world	114
<i>Leanza F. - Lozza E. - Castiglioni C. - Balconi M.</i>	
Would you like to pay? Taxpayers' physiological and behavioral responses	115
<i>Locurato N. - Mannarelli D. - Pauletti C. - Angelucci V. De Lucia M.C. - Currà A. - Fattapposta F.</i>	
Non motor aspects in early Parkinson's Disease: neurophysiological assessment of the interaction between dopamine and serotonergic tone	116
<i>Loiacono B. - Ronga I. - Bruno V. - Fossataro C. - Garbarini F.</i>	
I wanna hold your hand: other-touch induces sensory attenuation as in self-touch	117
<i>Maddaluno O. - Facchin A. - Curreri E. - Gianoli E. Bolognini N. - Daini R.</i>	
Neuromodulation of the perception of an illusion of length	118
<i>Manenti R. - Sandrini M. - Brambilla M. - Cotelli M.</i>	
tDCS to induce long-lasting positive effects on episodic memory in physiological aging	119
<i>Mannarelli D. - Pauletti C. - Mancini P. - Fioretti A. - Monte G. Fattapposta F.</i>	
Attentional impairment in chronic tinnitus: evidence from a P300 study	120
<i>Marchiori E. - Katsira M. - Landi G. - Ventrella M. - Niforatos E.</i>	
Investigating the effects of an edutainment Virtual Reality experience using biophysical data	121
<i>Marotta A. - Bombieri F. - Schena F. - Zampini M. - Tinazzi M. Fiorio M.</i>	
Sense of Agency and Sense of Body ownership in Functional Movement Disorders	122

<i>Martegani M. - Crivelli D.</i>	
Hypnotic trance and state of flow compared: a pilot neuropsychological and psychophysiological study	123
<i>Mattavelli G. - Romero Lauro L. - D'Agostino A. - Schiena G.</i>	
<i>Bertelli S. - Benetti A. - Gallucci A. - Rampoldi G. - Ammoni G.</i>	
<i>Ruggiero G.M. - Papagno C.</i>	
tDCS effects on implicit association tests in Eating Disorder patients	124
<i>Mazzoni N. - Jacobs C. - Venuti P. - Silvanto J. - Cattaneo L.</i>	
Motion or e-motion? Representation of observed	125
Emotional Bodily Expressions in the anterior Intraparietal Cortex and Superior Temporal Sulcus: a TMS state-dependent study	
<i>Milone V. - Venturella I. - Crivelli D. - Balconi M.</i>	
The relationship between emotional components and the embodiment effect during the Rubber Hand Illusion: an EEG-fNIRS study	126
<i>Minio-Paluello I. - Curioni A. - Sacheli L.M. - Candidi M.</i>	
Autistic traits influence interpersonal motor coordination in a joint-action task	127
<i>Mitro C. - Feder S.</i>	
Executive functions assessment in addiction: a four-cases study on addicted teenagers during abstinence from drugs	128
<i>Montemurno A. - Delussi M. - Ricci K. - Vecchio E. - de Tommaso M.</i>	
EEG Gamma band and empathy for pain in healthy subjects	128
<i>Monti C. - Sozzi M. - Dallera I. - Corbo M.</i>	
A case of pure prosopagnosia after right brain lesion: new insights for face perception	129
<i>Moreau Q. - Pavone E.F. - Candidi M.</i>	
Time-frequency EEG correlates of body parts visual perception	130
<i>Moresco R. - Bosco M.F. - Lamm C. - Valentini M.C. - Silani G.</i>	
Social support modulates the neural correlates underlying social exclusion	131
<i>Mustone D.</i>	
Brain Injury: diagnosis, rehabilitation, and single-case study	132
<i>Natale S. - Inzaghi M.G.</i>	
Emotional and practical implications for caregivers of patients with behavioral disorders following severe brain injury	133

<i>Palermo S. - Lopiano L. - Zibetti M. - Morese R. - Valentini M.C. Amanzio M.</i>	
Response-inhibition and Dyskinesias-Reduced-Self-Awareness in Parkinson's Disease: a piloting fMRI study	134
<i>Panizza L. - Mauri P. - Mazza V. - Miniussi C. - Brignani D. tES effects in a short-term memory task depend on participants' age</i>	135
<i>Papale P. - Leo A. - Cecchetti L. - Handjaras G. - Pietrini P. Ricciardi E.</i>	
Scene segmentation of natural stimuli in human early visual cortex	136
<i>Parmigiani S. - Zattera B. - Cattaneo L. Should I stay or should I go? Involvement of the human left dorsal premotor cortex and pre-supplementary motor area in response inhibition: a stop-signal paradigm</i>	137
<i>Pavanello A.G. - Crivelli D. The influence of Non-Verbal Communication and interaction frame on cognitive-affective functioning: a pilot psychophysiological study</i>	138
<i>Pavone E.F. - Grisoni L. - Aglioti S.M. Sound into action translation in healthy and Spinal Cord Injured people: a Mismatch Negativity study</i>	139
<i>Pazzaglia C. - Giordano R. - Liguori S. - Coraci D. - Pecchioli C. Testani E. - Padua L. - Valeriani M.</i>	
Abdominal Acupuncture reduces pain at spinal level	140
<i>Pazzaglia C. - Testani E. - Giordano R. - Valeriani M. CO₂ versus Nd:YAP laser: it's really the same? Preliminari results of a Laser Evoked Potential study</i>	141
<i>Peci S. Physiological interpretative model of Computerized Tomography signals</i>	142
<i>Peci S. - Ghigi F. - Peci F. The symptomatology of the sympathetic and vagal system as monitoring model of the therapeutic act (Neurotest)</i>	143
<i>Perri R.L. - Berchicci M. - Bianco V. - Spinelli D. - Di Russo F. Signals from an hidden island: novel ERP components from the anterior Insula and their involvement in visual recognition and in action-related evidence accumulation</i>	144

<i>Pescuma V.N. - Sozzi M. - Corbo M.</i>	
The role of sleep disorders in neurodegenerative diseases: review of the scientific literature and description of a screening questionnaire	145
<i>Pick E. - Capizzi M. - Kleinbub J.R. - Marcato S. - Meconi F. Palmieri A. - Querin G. - Sessa P. - Vallesi A. - Sorarù G.</i>	
Neural correlates of enhanced empathy in X-linked Spinal and Bulbar Muscular Atrophy: a neuropsychological and EEG study	146
<i>Pierguidi L. - Righi S. - Gronchi G. - Messina S. - Viggiano M.P.</i>	
Aesthetic foster our perception of every-day objects: an ERP study	147
<i>Pirulli C. - Pasotti A. - Pellegrini M. - Miniussi C. - Bortoletto M.</i>	
How is the brain going to respond?	148
The importance of prestimulus functional connectivity	
<i>Piscedda V.</i>	
Cognitive rehabilitation with tDCS and depression in Alzheimer's Disease	149
<i>Pisoni A. - Mattavelli G. - Papagno C. - Romero Lauro L.J.</i>	
Direct evidence of tDCS effect on cortical excitability and task performance: a TMS-EEG study on verbal fluency	150
<i>Plebe A. - Cilia N.D.</i>	
The topographic brain in identity and diversity selection functions	151
<i>Ponsi G. - Monachesi B. - Panasiti M.S.</i>	
To trust or not to trust: a Thermal Imaging study on the effects of social exclusion	152
<i>Porciello G. - Gandolfo M. - Boukarras S. - Minio-Paluello I.</i>	
Interpersonal Multisensory Stimulation enhances emotional contagion	153
<i>Presciuttini S. - Curcio M. - Sciarrino R. - Scatena F.</i>	
<i>Jensen M.P. - Santarcangelo E.L.</i>	
Hypnotizability-related activity of $\mu 1$ opioid receptors	154
<i>Pro S. - Specchio N. - De Palma L. - Marras C.E. - Fusco L.</i>	
<i>Vigevano F. - Valeriani M.</i>	
Event Related Potentials recorded by intracerebral electrodes	155

<i>Ragazzoni A. - Di Russo F. - Fabbri S. - Pesaresi I. - Di Rollo A.</i>	
<i>Perri R.L. - Barloscio D. - Bocci T. - Cosottini M. - Sartucci F.</i>	
Are omitted targets the best suited for eliciting purely endogenous ERPs? Source modelling of emitted potentials based on simultaneous EEG-fMRI recordings	156
<i>Rapazzini M. - Bertella L.</i>	
Standardized neuropsychological assessment	157
vs. clinical neuropsychological assessment: in search of potential residue in a case of severe bilateral brain damage	
<i>Ricci K. - Vecchio E. - Montemurno A. - Delussi M.</i>	
<i>de Tommaso M.</i>	
Habituation of Gamma band oscillations after repetitive laser stimulation in migraine patients and healthy controls	158
<i>Rodella C. - Cespón J. - Rossini P.M. - Miniussi C.</i>	
<i>Pellicciari M.C.</i>	
tDCS polarity-dependent neuroplasticity changes in physiological brain aging: a multimodal study	159
<i>Romero Lauro L.J. - Riva P. - Vergallito A.</i>	
Negative emotions modulation by means of anodal transcranial Direct Current Stimulation	160
over right Ventrolateral Prefrontal Cortex	
<i>Ronga I. - Sarasso P. - Fossataro C. - Garbarini F. - Neppi Modona M.</i>	
Visuomotor Prismatic Training modulates	161
visual detection thresholds in normal subjects	
<i>Rossi A. - Giovannelli F. - Mastrolorenzo B. - Gavazzi G. - Righi S.</i>	
<i>Zaccara G. - Cincotta M. - Viggiano M.P.</i>	
Relationship between impulsivity traits and awareness of motor intention	162
<i>Rossi Mel M. - Fasoletti C. - Ruggeri G.</i>	
An atypical course of Amnestic Mild Cognitive Impairment:	163
neither Alzheimer's Disease nor Vascular Dementia?	
<i>Russello M.</i>	
Neuropsychological assessment in Mild Cognitive Impairment: targeted to the comparison analysis between MMSE and MoCA	163
<i>Ruzzoli M. - Castro L. - Soto-Faraco S.</i>	
The clash of frames of reference: modality switching knocks out the Simon effect	164

<i>Sabogal Rueda M.D. - Crivelli D. - Balconi M.</i>	
Functional correlates of perceptual, motor and linguistic representations of complex actions: electrophysiological and optical imaging data	165
<i>Salatino A. - Piedimonte A. - Sarasso P. - Garbarini F. - Morelli F.</i>	
<i>Montanaro S. - Ricci R. - Berti A.</i>	
Role of the Premotor Cortex in the action monitoring: an rTMS study in healthy volunteers	166
<i>Sansone E.</i>	
A randomized double blind placebo-controlled trial of transcranial Direct Current Stimulation for Chronic Migraine with Medication Overuse: preliminary findings	167
<i>Sarasso P. - Ronga I. - Ricci R. - Neppi Modona M.</i>	
The more I like you the faster I am: aesthetic appreciation speeds up response times	168
<i>Savioni L.</i>	
The pathological laughing and crying: a three-cases study	169
<i>Scandola M. - Pachera S. - Moro V.</i>	
Recovery of the Peripersonal Space around the feet in complete paraplegics people: phenomenology and autonomic correlates	170
<i>Schiera I.G.</i>	
fMRI investigation of brain activity in motor and language brain areas in Friedreich's Ataxia after rehabilitation	171
<i>Serra C. - Galati G. - Galletti C. - Fattori P. - Sulpizio V.</i>	
<i>Pitzalis S.</i>	
Active limb movements and functional specialization in the human Medial Parietal Cortex	172
<i>Siri C. - Meucci N. - Finocchiaro R. - Balconi M. - Pezzoli G.</i>	
Decisional impairment (IOWA Gambling Task) in Parkinson's Disease patients with active and remitted Pathological Gambling behavior	173
<i>Soave F. - Folgieri R. - Lucchiari C.</i>	
Cortical correlates of a priming-based learning enhancement task: a Brain Computer Interface study	174
<i>Sozzi M. - Balconi M. - Corbo M.</i>	
Cognitive task to differentiate between visual field deficit and neglect	175

<i>Sozzi M. - Mannino A. - Maistrello B. - Corbo M.</i>	
Fronto-temporo-parietal connection as network for awareness: a clinical case description of anosognosia for blindness	176
<i>Spinelli A. - Cramarossa R. - De Pascale A. - Valentini G.</i>	
Assessment of executive functions and attention in children with developmental disabilities: a cases study	177
<i>Testa G. - Buongiorno F. - Agostini E. - Rusconi M.L. - Sanna M.</i>	
<i>Belligoli A. - Amadio P. - Vettor R. - Schiff S.</i>	
Neurophysiological correlates of cognitive control and food-related attentional bias: a longitudinal study in obese candidates for Laparoscopic Sleeve Gastrectomy	178
<i>Tieri G. - Pavone E.F. - Rizza G. - Spinelli G. - Aglioti S.M.</i>	
Active control of a virtual arm as a proxy to embodiment and action monitoring in people with Spinal Cord Injury: an EEG study in immersive virtual reality	179
<i>Turetti L. - Falciani L. - Galli J. - Micheletti S. - Cobelli C.</i>	
<i>Balconi M. - Fazzi E. - Maioli C.</i>	
Oculomotor control in children with Cerebral Palsy	180
<i>Valeriani M. - Lelic D. - Fischer I.W.D. - Dahan A. - Drewes A.M.</i>	
Venlafaxine and oxycodone have different effects on spinal and supra-spinal activity in man	181
<i>Vanutelli M.E. - Crivelli D. - Balconi M.</i>	
Cooperation and competition in the brain: cortical and personality components	182
<i>Vanutelli M.E. - Milone V. - Balconi M.</i>	
Perceiving emotions in Autism Spectrum Disorders: cortical and peripheral effects during intra- and inter-species social interactions	183
<i>Vanutelli M.E. - Pezard L. - Nandrino J.L. - Balconi M.</i>	
Intra and inter-brain connectivity during cooperation: a fNIRS-based connectivity analysis	184
<i>Varalta V. - Fonte C. - Cavedini C. - Butturini L. - Zihl J.</i>	
<i>Smania N.</i>	
Hemianopia in stroke patients: a new software for the rehabilitation	185
<i>Vecchio E. - Ricci K. - Montemurno A. - Delussi M.</i>	
<i>de Tommaso M.</i>	
Facilitation of cognitive process during gait in normal subjects	186

<i>Venturella I. - Siri C. - Meucci N. - Pezzoli G. - Balconi M.</i>	
Brain oscillations implications in Parkinson's Disease patients with or without remitted gambling behavior	187
<i>Venturella I - Bartesaghi L. - Crivelli D. - Balconi M.</i>	
The detection of psychophysiological parameters in vegetative state patients: a response to sensory stimulation?	187
<i>Venturella I - Postizzi G.</i>	
Social issues vs. commercial advertising, differences in psychophysiological activation during multimedial artefact fruition	188
<i>Virgillito A. - Menicucci D. - Bonfiglio L. - Zaccaro A.</i>	
<i>Carboncini M.C. - Gemignani A.</i>	
Structuring cortical bistability in sleeping DOC parallels the recovery of consciousness	189
<i>Zazio A. - Ruzzoli M. - Veniero D. - Miniussi C. - Bortoletto M.</i>	
Perceptual and physiological consequences of dark adaptation: a TMS-EEG study	190

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20
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Neurophysiological correlates of cognitive control and food-related attentional bias: a longitudinal study in obese candidates for Laparoscopic Sleeve Gastrectomy

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Laparoscopic Sleeve Gastrectomy (LSG) is a bariatric surgery procedure to promote weight-loss in severe obese individuals. Beyond homeostatic needs, several non-homeostatic mechanisms contribute to overeating, which may in turn lead to weight gain and obesity. Attentional bias toward food-related cues has been suggested in obese individuals, possibly reflecting altered reward-sensitivity within the brain reward network. From the other hand, cognitive control exerted by frontal brain regions is necessary to inhibit overeating and pursuit long-term goals (i.e. weight loss), and reduced frontal activation has been shown in obese individuals. Both attentional processing and top-down cognitive control might correspond to a decrease in impulsive symptoms after bariatric surgery and contribute to successful weight-loss. Initial evidences for cognitive improvement after bariatric surgery exist, however neurophysiological correlates of these processes are poorly investigated and longitudinal studies are needed. Thus, the aim of the present study was to assess changes following LSG in 17 obese individuals, evaluated in fasted state before LSG (pre-LSG) and one year after-surgery (post-LSG). Cognitive control and attentional bias toward food were investigated with a modified Simon task with central presentation of distracting food and non-food images, and a neutral condition without distractors. Stimulus-response spatial compatibility was assessed analyzing spatial corresponding and non-corresponding trials. Behavioral measures and Event-Related Brain Potentials (ERPs) were recorded during task execution. Behavioral results showed reduced cognitive control in trials with food, with longer reaction times and lower accuracy in the non-corresponding condition both pre- and post-LSG. Frontal N2 showed an increase in amplitude from pre- to post-LSG, in all conditions. Furthermore, in pre-LSG N2 latency for distractors was shorter than neutral whereas this difference was no longer present post-LSG. P3 analysis did not reveal any significant effect of surgery, however, a significant difference between corresponding and non-corresponding trials was detected only for food. Increased N2 amplitude after surgery may suggest higher recruitment of frontal resources during conflict detection processes post-LSG, whereas changes in N2 latency post-LSG can be interpreted as an overall reduction of attentional bias during conflict detection. In contrast, higher P3 amplitude for food may indicate a food-specific attentional bias