

Liste de publications de Charles Kornreich

Ouvrages édités à titre de seul éditeur ou en collaboration (1)

Sans date

1. Timmermans, J.-M., & Kornreich, C. (s.d.). *Le TOC au jour le jour* Sur la Colline.

Parties d'ouvrages collectifs (3)

2013

2. Delle-Vigne, D., Kornreich, C., Verbanck, P., & Campanella, S. (2013, janvier). Searching for a greater sensitivity of cognitive event-related potentials through a crossmodal procedure for a better clinical use in psychiatry In *Integrating Face and Voice in Person Perception* (pp. 325-367). Springer New York. doi:10.1007/978-1-4614-3585-3_16

Abstract: Psychiatry has never been able to satisfactorily respond to the delicate question of differential diagnosis, both in theory as well as in practice, which creates a more fundamental question: what about the discrimination between normality and pathology (e.g. Canguilhem, 1972; Duyckarts, 1964; Wakefield, 2007)? Patient's subjectivity will add some complexity to this concern, as attempts to standardize such diagnosis tools have been made.

2003

3. Kornreich, C., Philippot, P., & Blairy, S. (2003). Nonverbal Deficits and Interpersonal Regulation in Alcoholics In P. Philippot, E. Coats, & R. Feldman (Eds.), *Nonverbal Behavior in Clinical Context*. New York: Oxford University Press.
4. Philippot, P., Doulliez, C., Pham, T. T. T., Foisy, M.-L., & Kornreich, C. (2003). Facial Expression Decoding Deficits in Clinical Populations with Interpersonal Relationship Dysfunctions In R. Riggio & R. Feldman (Eds.), *Application of Nonverbal Behavior*. Lawrence Erlbaum Associates. doi:10.4324/9781410612786

Articles dans des revues avec comité de lecture (155)

Soumis pour publication

5. Foisy, M.-L., Kornreich, C., Pelc, I., & Philippot, P. (s.d.). L'impact potentiel d'un alcoolisme parental sur les enfants: un devenir fonction de nombreux facteurs *L'Encéphale*.
6. Trumpf, C., & Kornreich, C. (s.d.). L'humanité et les drogues: une longue histoire commune *Acta psychiatrica Belgica*.

A paraître

7. Duagani Masika, Y., Leys, C., Fossion, P., Verbanck, P., Tingu Yaba Nzolameso, M., Mampunza Ma Miezri, S., & Kornreich, C. (2019). Trauma awareness and preparedness: Their influence on post traumatic stress disorder development related to armed conflict experience *Journal of psychology in Africa*.

2019

8. Kornreich, C. (2019, février). Face reading difficulties in children with neurofibromatosis type 1: towards more personalized treatments *Developmental medicine and child neurology*, 61(2), 113-114. doi:10.1111/dmcn.13957
9. Duagani Masika, Y., Leys, C., Ma Nzuzi, T. M., Blanchette, I., Ma, E. S. K., & Kornreich, C. (2019). Peritraumatic dissociation and post-traumatic stress disorder in individuals exposed to armed conflict in the Democratic Republic of Congo *Journal of trauma & dissociation*, <https://doi.org/10.1080/15299732.2019.1597814> 1-12.
<https://dipot.ulb.ac.be/dspace/bitstream/2013/279014/3/trauma1JTD.pdf>

2018

10. Campanella, S., Schroder, E., Vanderhasselt, M. A., Baeken, C., Kornreich, C., Verbanck, P., & Burle, B. B. (2018, novembre). Short-Term Impact of tDCS Over the Right Inferior Frontal Cortex on Impulsive Responses in a Go/No-go Task *Clinical EEG and neuroscience*, 49(6), 398-406. doi:10.1177/1550059418777404

Abstract: Inhibitory control, a process deeply studied in laboratory settings, refers to the ability to inhibit an action once it has been initiated. A common way to process data in such tasks is to take the mean response time (RT) and error rate per participant. However, such an analysis ignores the strong dependency between spontaneous RT variations and error rate. Conditional accuracy function (CAF) is of particular interest, as by plotting the probability of a response to be correct as a function of its latency, it provides a means for studying the strength of impulsive responses associated with a higher frequency of fast response errors. This procedure was applied to a recent set of data in which the right inferior frontal gyrus (rIFG) was modulated using transcranial direct current stimulation (tDCS). Healthy participants (n = 40) were presented with a “Go/No-go” task (click on letter M, not on letter W, session 1). Then, one subgroup (n = 20) was randomly assigned to one 20-minutes neuromodulation session with tDCS (anodal electrode, rIFG; cathodal electrode, neck); and the other group (n = 20) to a condition with sham (placebo) tDCS. All participants were finally confronted to the same “Go/No-go” task (session 2). The rate of commission errors (click on W) and speed of response to Go trials were similar between sessions 1 and 2 in both neuromodulation groups. However, CAF showed that active tDCS over rIFG leads to a reduction of the drop in accuracy for fast responses (suggesting less impulsivity and greater inhibitory efficiency), this effect being only visible for the first experimental block following tDCS stimulation. Overall, the present data indicate that boosting the rIFG may be useful to enhance inhibitory skills, but that CAF could be of the greatest relevance to monitor the temporal dynamics of the neuromodulation effect.

11. Brevers, D., Bechara, A., Kilts, C. D., Antoniali, V., Bruylant, A., Verbanck, P., Kornreich, C., & Noël, X. (2018, septembre). Competing Motivations: Proactive Response Inhibition Toward Addiction-Related Stimuli in Quitting-Motivated Individuals. *Journal of gambling studies*, 34(3), 785-806. doi:10.1007/s10899-017-9722-2

Abstract: We examined whether addiction-related cues impact proactive inhibition (the restraint of actions in preparation for stopping) in individuals who are motivated to quit gambling or cannabis use. In Study 1, treatment-seeking individuals with cannabis use disorder and matched controls performed a stop-signal task that required them to inhibit categorizing cannabis or neutral pictures, and within varying levels of stop-signal probability. In Study 2, two groups of individuals, who applied to a voluntary self-exclusion program toward gambling, performed the stop-task following relaxation or gambling craving induction, with results compared to non-gamblers. Study 1 showed that despite being less efficient in proactive inhibition, individuals with cannabis use disorder exhibited heightened proactive inhibition toward cannabis cues. In Study 2, proactive inhibition toward gambling cues was heightened in gamblers after craving, but the degree of proactive adjustment decreased as a function of induced changes in gambling-related motivation. Present

findings demonstrate that exposure to addiction-related cues can modulate proactive inhibition in individuals who are motivated to restrict their addictive behaviors.

12. Campanella, S., Schroder, E., Kajosch, H., Noël, X., & Kornreich, C. (2018, juin). Why cognitive event-related potentials (ERPs) should have a role in the management of alcohol disorders. *Neuroscience and biobehavioral reviews*. doi:10.1016/j.neubiorev.2018.06.016

Abstract: Alcohol dependence is currently one of the most serious public health problems. Indeed, 3-8% of all deaths worldwide are attributable to effects of alcohol consumption. Although the first step in alcohol dependence treatment is straightforward, the main problem for clinicians lies with the prevention of relapse, as 40-70% of patients who only undergo psychosocial therapy resume alcohol use within a year following treatment. This review of the literature regarding event-related potentials (ERPs) is focused on two major neurocognitive factors that partially account for the inability of many alcoholics to remain abstinent: attentional biases towards alcohol-related stimuli that increase the urge to drink, and impaired response inhibition towards these cues that makes it more difficult for alcoholics to resist the temptation to drink. On this basis, we propose new research avenues to better implement ERPs in the management of alcohol disorders, according to four main directions that relate to (1) the development of ERP serial recordings; (2) the promotion of a multi-component ERP approach; (3) the definition of multi-site guidelines; and (4) the use of more representative laboratory situations through the use of more compelling environments.

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https://dipot.ulb.ac.be/dspace/bitstream/2013/277001/6/Elsevier_260628.pdf

13. Brevers, D., Herremans, S. S., He, Q., Vanderhasselt, M. A., Petieau, M., Verdonck, D., Poppa, T., De Witte, S., Kornreich, C., Bechara, A., & Baeken, C. (2018, avril). Facing temptation: The neural correlates of gambling availability during sports picture exposure. *Cognitive, affective & behavioral neuroscience*. doi:10.3758/s13415-018-0599-z

Abstract: Nowadays, sports betting has become increasingly available and easy to engage in. Here we examined the neural responses to stimuli that represent sporting events available for betting as compared to sporting events without a gambling opportunity. We used a cue exposure task in which football (soccer) fans (N = 42) viewed cues depicting scheduled football games that would occur shortly after the scanning session. In the "betting" condition, participants were instructed to choose, at the end of each block, the game (and the team) they wanted to bet on. In the "watching" condition, participants chose the game they would prefer to watch. After the scanning session, participants completed posttask rating questionnaires assessing, for each cue, their level of confidence about the team they believed would win and how much they would enjoy watching the game. We found that stimuli representing sport events available for betting elicited higher fronto-striatal activation, as well as higher insular cortex activity and functional connectivity, than sport events without a gambling opportunity. Moreover, games rated with more confidence towards the winning team resulted in greater brain activations within regions involved in affective decision-making (ventromedial prefrontal cortex), cognitive inhibitory control (medial and superior frontal gyri) and reward processing (ventral and dorsal striatum). Altogether, these novel findings offer a sensible simulation of how the high availability of sports betting in today's environment impacts on the reward and cognitive control systems. Future studies are needed to extend the present findings to a sample of football fans that includes a similar proportion of female and male participants.

14. Carbonez, F., Al Husni Al Keilani, M., Kornreich, C., & Delvenne, V. (2018, janvier). La transition entre soins pédopsychiatriques et soins en psychiatrie adulte *Revue médicale de Bruxelles*, 39(1), 35-40.

Abstract: Adolescents and young adults are at particularly at-risk population in mental health. For a large majority of patients suffering from chronic psychiatric condition, the age of onset of psychiatric symptoms is less than 24 years, while the coverage in psychiatric care is the lowest between 16 and 24. Presenting a psychiatric pathology during childhood and adolescence constitutes an independent risk factor for the occurrence of adverse life events in adulthood. Furthermore, that population is at the edge between child and adolescent mental health services (CAMHS) and adult mental health services (AMHS). Transition is the deliberate and planned movement from CAMHS to AMHS. CAMHS and AMHS struggle to achieve optimal transitions between them. Many barriers exist at the interface of the two types of structure and some young people who require continuous care during this period do not have access to it. There are also too few specific psychiatric services for the population of adolescents and young adults. Some recommendations emerge to intend to guide practices, but the literature lacks data to better define this population and build guidelines about the transition between CAMHS and AMHS and about specific services for adolescents and young adults in psychiatry.

15. Rolin, H., Leys, C., Verbanck, P., Kornreich, C., & Fossion, P. (2018). L'analyse de la demande aux urgences psychiatriques: une approche systémique *Acta psychiatrica Belgica*, 118(2), 12-16.
<https://dipot.ulb.ac.be/dspace/bitstream/2013/258339/3/ACTArolin.pdf>
16. Brevers, D., Foucart, J., Turel, O., Bertrand, A., Alaerts, M., Verbanck, P., Kornreich, C., & Bechara, A. (2018). The impact of self-control cues on subsequent monetary risk-taking *Journal of behavioral addictions*, 7(4), 1044-1055. doi:10.1556/2006.7.2018.97

Abstract: Background and aims: The “process-model” of self-control proposes that the ego-depletion effect is better explained by a switch between interest in “have-to” labor and cognitive “want-to” leisure, rather than being mainly due to a decrease in cognitive resources, as advanced by the “strength-model” of self-control. However, it is currently difficult to disentangle the “process-model” from the “strength-model” of self-control. Here, we employed a stepwise approach, featuring three studies, for testing the process model of self-control. Methods: In Study 1, we created a list of 30 self-control events for characterizing “have-to” conducts in the daily life. In Study 2, mental visualization of effortful self-control events (“have-to”) and monetary risk-taking (“want-to”) were employed for testing the strength-model of self-control. In Study 3, to test the process-model of self-control, participants were simply required to read self-control (or neutral) sentences. Results: Study 1 provided evidence regarding external validity for the list of self-control events. Study 2 showed that mental visualization of effortful self-control events increases subsequent monetary risk-taking. Study 3 highlighted that the brief apparition of a self-control-related sentence was sufficient for increasing risk-taking. These patterns were evidenced in the trial with the less advantageous gain/loss ratio. Discussion: Altogether these findings support the process-model of self-control in showing that triggering the semantic content of a “have-to” conduct, without its actual execution, is sufficient for modulating subsequent “want-to” activity. Conclusion: These findings could contribute to advancing current knowledge on how the high availability of ready-to-consume rewards in modern environments is redefining humans’ self-control ability.

17. Kornreich, C., Cole, P. E., & Kajosch, H. (2018, janvier). La stimulation électrique transcrânienne (tDCS): Applications en psychiatrie *Revue médicale de Bruxelles*, 39(1), 47-49.

Abstract: Transcranial Direct Current Stimulation (tDCS) is a cheap, easy to use, and relatively safe noninvasive brain stimulation technique. It is increasingly used in several indications in psychiatry and neurology, mainly for depression, chronic pain and cognitive decline due to degenerative brain diseases. Its efficacy is probable in depression and must still be confirmed in numerous other indications. Low-cost devices for the general public are easy to find on the internet

and are frequently used for non-therapeutic indications, like the improvement of video gamers' performances. A non-medical use could represent a public health hazard, due to lack of control on stimulation parameters i.e. localization, duration and intensity.

2017

18. Brevers, D., Rogiers, A., Defontaine, A., Chéron, G., Clarinval, A.-M., Foucart, J., Bouchez, A., Bolly, V., Tsartsafloudakis, L., Jottrand, P., Minner, P., Bechara, A., Kornreich, C., & Verbanck, P. (2017, novembre). Implementation intention for initiating intuitive eating and active embodiment in obese patients using a smartphone application *Frontiers in psychiatry*, 8(NOV), 243. doi:10.3389/fpsy.2017.00243

Abstract: This article describes a study protocol, which aims to explore and describe the feasibility of a mobile-phone application for initiating intuitive eating and intuitive exercising in patients who are following an ambulatory treatment for obesity. Intuitive eating refers to one's ability to make food choices based on one's awareness of his/her body's response. Intuitive exercising encourages people in finding enjoyable ways of being physically active. These two components will be trained using an implementation intention procedure, that is, behavioral plans that aim at creating a strong link between a specified situation and a response. We aim to recruit up to 80 overweight and obese patients over a period of 2 years. The smartphone application will be assessed on the basis of (i) data obtained through a 4-week use period, (ii) self-report measures taken before and after the use of the mobile application, and (iii) feedbacks from participants after the use of the mobile application. This pilot study will allow us to better understand the applicability of the use of mobile application within ambulatory treatment settings, and to adapt the design of the app necessary for building cross-sectional studies investigating its efficacy.

19. Kornreich, C., Delle-Vigne, D., Brevers, D., Tecco, J. M., Campanella, S., Noël, X., Verbanck, P., & Ermer, E. (2017, août 01). Conditional Reasoning in Schizophrenic Patients. *Evolutionary Psychology*, 15(3), 1474704917721713. doi:10.1177/1474704917721713

Abstract: Conditional reasoning (if p then q) is used very frequently in everyday situations. Conditional reasoning is impaired in brain-lesion patients, psychopathy, alcoholism, and polydrug dependence. Many neurocognitive deficits have also been described in schizophrenia. We assessed conditional reasoning in 25 patients with schizophrenia, 25 depressive patients, and 25 controls, using the Wason selection task in three different domains: social contracts, precautionary rules, and descriptive rules. Control measures included depression, anxiety, and severity of schizophrenia measures as a Verbal Intelligence Scale. Patients with schizophrenia were significantly impaired on all conditional reasoning tasks compared to depressives and controls. However, the social contract and precautions tasks yielded better results than the descriptive tasks. Differences between groups disappeared for social contract but remained for precautions and descriptive tasks when verbal intelligence was used as a covariate. These results suggest that domain-specific reasoning mechanisms, proposed by evolutionary psychologists, are relatively resilient in the face of brain network disruptions that impair more general reasoning abilities. Nevertheless, patients with schizophrenia could encounter difficulties understanding precaution rules and social contracts in real-life situations resulting in unwise risk-taking and misunderstandings in the social world.

20. Campanella, S., Schroder, E., Monnart, A., Vanderhasselt, M. A., Duprat, R., Rabijns, M., Kornreich, C., Verbanck, P., & Baeken, C. (2017, mai). Transcranial Direct Current Stimulation over the Right Frontal Inferior Cortex Decreases Neural Activity Needed to Achieve Inhibition: A Double-Blind ERP Study in a Male Population *Clinical EEG and neuroscience*, 48(3), 176-188. doi:10.1177/1550059416645977

Abstract: Inhibitory control refers to the ability to inhibit an action once it has been initiated. Impaired inhibitory control plays a key role in triggering relapse in some pathological states, such as addictions. Therefore, a major challenge of current research is to establish new methods to strengthen inhibitory control in these "high-risk" populations. In this attempt, the right inferior frontal cortex (rIFC), a neural correlate crucial for inhibitory control, was modulated using transcranial direct current stimulation (tDCS). Healthy participants (n = 31) were presented with a "Go/No-go" task, a well-known paradigm to measure inhibitory control. During this task, an event-related potential (ERP) recording (T1; 32 channels) was performed. One subgroup (n = 15) was randomly assigned to a condition with tDCS (anodal electrode was placed on the rIFC and the cathodal on the neck); and the other group (n = 16) to a condition with sham (placebo) tDCS. After one 20-minute neuromodulation session, all participants were confronted again with the same ERP Go/No-go task (T2). To ensure that potential tDCS effects were specific to inhibition, ERPs to a face-detection task were also recorded at T1 and T2 in both subgroups. The rate of commission errors on the Go/No-go task was similar between T1 and T2 in both neuromodulation groups. However, the amplitude of the P3d component, indexing the inhibition function per se, was reduced at T2 as compared with T1. This effect was specific for participants in the tDCS (and not sham) condition for correctly inhibited trials. No difference in the P3 component was observable between both subgroups at T1 and T2 for the face detection task. Overall, the present data indicate that boosting the rIFC specifically enhances inhibitory skills by decreasing the neural activity needed to correctly inhibit a response.

21. Noël, X., Saeremans, M., Kornreich, C., Jaafari, N., & D'Argembeau, A. (2017, mars). Future-oriented mental time travel in individuals with disordered gambling. *Consciousness and cognition*, 49, 227-236. doi:10.1016/j.concog.2017.02.006

Abstract: This study investigated the ability of individuals with disordered gambling to imagine future events. Problem gamblers (n=35) and control participants (n=35) were asked to imagine positive and negative future events for three temporal distances (one week, one year, 5-10years). Then, a variety of phenomenological aspects of their future thoughts (e.g., sensory and contextual details, auto-noetic consciousness) were rated. Compared to control subjects, problem gamblers generated fewer positive and negative events across all temporal distances, an impairment that was correlated to verbal fluency scores. Furthermore, problem gamblers rated imagined events as containing fewer sensory and contextual details, and lacking auto-noetic consciousness. These findings demonstrate that problem gambling is associated with a reduced future-oriented mental time travel ability and, in particular, with diminished auto-noetic consciousness when imagining future events.

https://dipot.ulb.ac.be/dspace/bitstream/2013/251671/1/Elsevier_235298.pdf

22. Kornreich, C. (2017, janvier). Commentary on Bora & Zorlu (2017): Social cognition deficits in addiction—an attachment problem? *Addiction*, 112(1), 49-50. doi:10.1111/add.13542
<https://dipot.ulb.ac.be/dspace/bitstream/2013/242228/3/242228.pdf>

23. Noël, X., Saeremans, M., Bechara, A., Kornreich, C., & Fantini-Hauwel, C. (2017). On the processes underlying the relationship between alexithymia and gambling severity *Journal of gambling studies*, 1-18.

2016

24. Kornreich, C., Monnart, A., Ammendola, S., & Campanella, S. (2016, septembre). Peut-on mesurer la dépression ? *Revue médicale de Bruxelles*, 37(4), 225-230.

Abstract: Etiologically and symptomatically, depression is a profoundly heterogeneous disorder. Symptoms may be classified as either emotional or cognitive. Fear, seeking and panic/grief

primary emotional circuits are involved at variable intensities. Cognitive symptoms are mostly associated with executive functions' problems. Different symptoms may be linked with specific cerebral circuits dysfunctions. However, because of their heterogeneity, it seems difficult to measure depression with biological methods (cerebral imagery and evoked potentials), as if it were a one-dimensional phenomenon. Clinical impression remains the main evaluation tool for depressive patients. Psychometric scales may be useful to evaluate the efficacy of treatments and to strengthen relationship with the therapist. Hamilton Depression Scale, Montgomery and Asberg Depression Scale and Beck Depression Inventory are the most used ones. We recommend the last one, as it is reliable and easy to use in clinical settings.

25. Schroder, E., Kajosch, H., Verbanck, P., Kornreich, C., & Campanella, S. (2016, septembre). Methodological considerations about the use of bimodal oddball P300 in psychiatry: Topography and reference effect *Frontiers in Psychology*, 7(9), 1387. doi:10.3389/fpsyg.2016.01387

Abstract: Event-related potentials (ERPs) bimodal oddball task has disclosed increased sensitivity to show P300 modulations to subclinical symptoms. Even if the utility of such a procedure has still to be confirmed at a clinical level, gathering normative values of this new oddball variant may be of the greatest interest. We specifically addressed the challenge of defining the best location for the recording of P3a and P3b components and selecting the best reference to use by investigating the effect of an offline re-reference procedure on recorded bimodal P3a and P3b. Forty young and healthy subjects were submitted to a bimodal (synchronized and always congruent visual and auditory stimuli) three-stimulus oddball task in which 140 frequent bimodal stimuli, 30 deviant "target" stimuli and 30 distractors were presented. Task consisted in clicking as soon as possible on the targets, and not paying attention to frequent stimuli and distractors. This procedure allowed us to record, for each individual, the P3a component, referring to the novelty process related to distractors processing, and the P3b component, linked to the processing of the target stimuli. Results showed that both P3a and P3b showed maximal amplitude in Pz. However, P3a displayed a more central distribution. Nose reference was also shown to give maximal amplitudes compared with average and linked mastoids references. These data were discussed in light of the necessity to develop multi-site recording guidelines to furnish sets of ERPs data comparable across laboratories.

26. Monnart, A., Kornreich, C., Verbanck, P., & Campanella, S. (2016, juillet). Just swap out of negative vibes? Rumination and inhibition deficits in major depressive disorder: Data from event-related potentials studies *Frontiers in Psychology*, 7(JUL), 01019. doi:10.3389/fpsyg.2016.01019

Abstract: Major depression is a serious disorder of impaired emotion regulation. Emotion hyperactivity leads to excessive negative ruminations that daily hijack the patient's mental life, impacting their mood. Evidence from past researches suggest that depressive patients present several cognitive impairments in attention and working memory, leading to a more acute selective attention for negative stimuli and a greater accessibility of negative memories. Recently, it has been proposed that impaired inhibitory functioning with regard to emotional information processing might be one of the mechanisms of ruminations linking memory, attention and depression. It seems that inhibition deficit is present at both the input level (i.e., the ability to reduce the interference from emotional distracters) and the higher level (i.e., the ability to direct the attention away from emotional material that has already been processed) of emotional information processing. Event-related potentials (ERP) have widely been used to study inhibition in adults suffering from various psychopathological states. In particular, depressive disorder has been linked to ERPs modulations, at early as well as at latter stages of the information-processing stream, when processing affective material. For instance, deficits in inhibiting negative information have been indexed by changes in the parameters (amplitudes and latencies) of early P2, P1 and N1 components while other ERP studies have shown an ability to differentiate depressed patients from normal controls based upon

response inhibition difficulties in go-nogo tasks, indexed by later NoGo P3 differences. In this review, we will focus on results of ERP studies investigating inhibition and its interaction with emotional related cue processing in depressive populations. Implications for future research and theoretical perspectives will be discussed within the framework of current models of depressive disorder, based upon the hypothesis that negative ruminations are at the center of depression processes.

27. Noël, X., Brevers, D., Hanak, C., Kornreich, C., Verbanck, P., & Verbruggen, F. (2016, juin). On the automaticity of response inhibition in individuals with alcoholism *Journal of behavior therapy and experimental psychiatry*, 51, 84-91. doi:10.1016/j.jbtep.2016.01.003

Abstract: Background and objectives Response inhibition is usually considered a hallmark of executive control. However, recent work indicates that stop performance can become associatively mediated ('automatic') over practice. This study investigated automatic response inhibition in sober and recently detoxified individuals with alcoholism. Methods We administered to forty recently detoxified alcoholics and forty healthy participants a modified stop-signal task that consisted of a training phase in which a subset of the stimuli was consistently associated with stopping or going, and a test phase in which this mapping was reversed. Results In the training phase, stop performance improved for the consistent stop stimuli, compared with control stimuli that were not associated with going or stopping. In the test phase, go performance tended to be impaired for old stop stimuli. Combined, these findings support the automatic inhibition hypothesis. Importantly, performance was similar in both groups, which indicates that automatic inhibitory control develops normally in individuals with alcoholism. Limitations This finding is specific to individuals with alcoholism without other psychiatric disorders, which is rather atypical and prevents generalization. Personalized stimuli with a stronger affective content should be used in future studies. Conclusions These results advance our understanding of behavioral inhibition in individuals with alcoholism. Furthermore, intact automatic inhibitory control may be an important element of successful cognitive remediation of addictive behaviors.

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28. Kornreich, C., Saeremans, M., Delwarte, J., Noël, X., Campanella, S., Verbanck, P., Ermer, E., & Brevers, D. (2016, février). Impaired non-verbal emotion processing in pathological gamblers *Psychiatry research*, 236, 125-129. doi:10.1016/j.psychres.2015.12.020

Abstract: Impaired perception of emotion in others has been described and confirmed in addictions with substances, but no such data exists regarding addictions without substances. As it has been hypothesized that toxic effect of substances on the brain was responsible for the impairments described, studying addictions without substances could be of interest to confirm this hypothesis. Twenty-two male pathological gamblers were compared to 22 male healthy controls matched for age and education level on non-verbal emotion perception tasks including faces, voices, and musical excerpts. Depression and anxiety levels were controlled for. Pathological gamblers significantly underestimated the intensity of peacefulness in music, and overall they were less accurate when reading emotion in voices and faces. They also overestimated emotional intensity in neutral voices and faces. Although anxiety levels did account for accuracy problems when detecting fear in voices and for overestimating emotions in neutral faces, anxiety levels did not explain the range of deficits observed. This is the first study showing non-verbal perception deficits in a purely behavioural addiction. These findings show that deficits in decoding non-verbal signals are associated with addictive behaviours per se, and are not due solely to toxic effects of substances on the brain.

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29. Kornreich, C., Petit, G., Rolin, H., Ermer, E., Campanella, S., Verbanck, P., & Maurage, P. (2016). Decoding of nonverbal language in alcoholism: A perception or a labeling problem? *Psychology of addictive behaviors*, 30(2), 175-183. doi:10.1037/adb0000147

Abstract: Alcohol-dependent patients have difficulty recognizing social cues such as emotional facial expressions, prosody, and postures. However, most researchers describing these difficulties rely on labeling tasks. It therefore remains difficult to disentangle genuine emotion-decoding problems from emotion-labeling impairments. In the present study, 35 recently detoxified alcohol-dependent patients were compared with 35 matched controls on four emotion-pairing tasks to explore the distinction between labeling and perceptual abilities. First, 2 tasks were used to assess emotion-labeling ability (labeling task) and working memory (necessary to process emotional stimuli; control matching task). Next, 2 experimental pairing tasks were used to explore unimodal, Face-face or voice-voice) and cross-modal, Face-voice or voice-face) matching abilities in the absence of any labeling requirement. Patients had difficulty accurately processing voices in unimodal tasks and correctly matching emotional stimuli in cross-modal tasks. Specifically, they did not correctly identify neutral stimuli in unimodal or cross-modal tasks and did not correctly identify fear in cross-modal tasks. Reaction times were also slower in these patients. However, accuracy and reaction time (RT) differences between patients and controls were accounted for by including anxiety and depression scores as covariates in the model. These results suggest that emotion-decoding difficulties observed in recently detoxified alcohol-dependent patients are not due to a specific emotion-labeling impairment, but rather involve perceptual difficulties or later integrative processing steps in the brain. Future studies should directly compare depressed or nondepressed alcohol-dependent patients with depressive patients to disentangle the influences of these highly comorbid disorders on nonverbal language perception.

2015

30. Kornreich, C. (2015, décembre). Resilience after paediatric-onset spinal cord injury: A careful optimism *Developmental medicine and child neurology*, 57(12), 1087-1088. doi:10.1111/dmcn.12884
<https://dipot.ulb.ac.be/dspace/bitstream/2013/226643/3/226643.pdf>
31. Ammendola, S., & Kornreich, C. (2015, octobre). Les antidépresseurs sont-ils réellement efficaces ? *Revue médicale de Bruxelles*, 36(5), 421-429.

Abstract: Antidepressants are widely used for a long time and it is estimated that about 10 % of the Belgian population is taking some of them each year. However, there are important controversies about their real efficacy. We review successively arguments for and against their efficacy. On the one hand, meta-analysis have shown no big efficacy differences between antidepressants and placebo. On the other hand, those meta-analysis have been criticized for their methodology. Animal models show a real effect of antidepressants on the brain and clinical observations, such as an impact on suicide prevention, the possibility of induced manic switch, and an efficacy on anxiety disorders are in favour of a real efficacy. Given our current state of knowledge about them it seems appropriate to continue to use antidepressants in the treatment of depressive patients.

32. Brevers, D., Noël, X., Hanak, C., Verbanck, P., & Kornreich, C. (2015, juillet 09). On the relationship between emotional state and abnormal unfairness sensitivity in alcohol dependence. *Frontiers in Psychology*, 6, 983. doi:10.3389/fpsyg.2015.00983

Abstract: Recent empirical findings suggest that alcohol dependence is characterized by heightened sensitivity to unfairness during social transactions. The present study went a step further and aimed to ascertain whether this abnormal level of sensitivity to unfairness is underlined by an increased emotional reactivity. Twenty-six recently abstinent alcohol-dependent (AD) individuals and 32 controls performed an ultimatum game (UG), in which participants had to respond to take-it-or-leave-it offers, ranging from fair to unfair and made by a fictive proposer. Emotional state was recorded during UG offers presentation and was indexed by the amplitude of skin conductance response (SCR). Results showed that AD decided to reject unfair offers more frequently than their

controls, confirming previous data. The proportion of rejected unfair UG offers was correlated with SCR, in the AD but not in the control group. This finding suggests that deciding to accept or reject unfair UG offers is influenced by arousal-affective activity in AD, but not in controls. Heightened emotional reactivity may have driven AD to punish the proposer rather than acting as a rational economic agent. An implication of present findings is that AD might have difficulty to cope with unfair situations triggered by social interactions. Future studies are needed in order to examine whether emotional and behavioral-reactivity to unfairness during the UG could impact alcohol consumption and relapse in AD.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/219382/1/PMC4496552.pdf>

33. Petit, G., cimochovska, A., Cevallos Barragan, C., Chéron, G., Kornreich, C., Hanak, C., Schröder, E., Verbanck, P., & Campanella, S. (2015). Reduced processing of alcohol cues predicts abstinence in recently detoxified alcoholic patients in a three-month follow up period: An ERP study *Behavioural brain research*, 282, 84-94. doi:10.1016/j.bbr.2014.12.057

Abstract: One of the major challenges in alcohol dependence is relapse prevention, as rates of relapse following detoxification are high. Drug-related motivational processes may represent key mechanisms in alcoholic relapse. In the present study, event-related potentials (ERPs) were recorded during a visual oddball task administered to 29 controls (11 females) and 39 patients (9 females). Deviant stimuli were related or unrelated to alcohol. For patients, the task was administered following a 3-week detoxification course. Of these, 19 relapsed during the three months follow-up period. The P3, an ERP component associated with activation of arousal systems in the brain and motivational engagement, was examined with the aim to link the fluctuation of its amplitude in response to alcohol versus non-alcohol cues to the observed relapse rate. Results showed that compared to relapsers, abstainers presented with a decreased P3 amplitude for alcohol related compared to non-alcohol related pictures ($p = .009$). Microstate analysis and sLORETA topography showed that activation for both types of deviant cues in abstainers originated from the inferior and medial temporal gyrus and the uncus, regions implicated in detection of target stimuli in oddball tasks and of biologically relevant stimuli. Through hierarchical regression, it was found that the P3 amplitude difference between alcohol and non-alcohol related cues was the best predictor of relapse vulnerability ($p = .013$). Therefore, it seems that a devaluation of the motivational significance of stimuli related to alcohol, measurable through electrophysiology, could protect from a relapse within three months following detoxification in alcohol-dependent patients.

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https://dipot.ulb.ac.be/dspace/bitstream/2013/187521/4/Elsevier_171148.pdf

34. Delle-Vigne, D., Kornreich, C., Verbanck, P., & Campanella, S. (2015). The P300 component wave reveals differences in subclinical anxious-depressive states during bimodal oddball tasks: An effect of stimulus congruence *Clinical neurophysiology*, 126(11), 2108-2123. doi:10.1016/j.clinph.2015.01.012

Abstract: Objective: We previously found that using a bimodal oddball design with synchronized pairs of audio-visual stimuli increased the sensitivity of the P300 wave to subclinical differences in depression. We wondered: (1) whether these P300 modulations were due to facilitated discrimination of deviant vs. frequent stimuli and (2) whether congruency of the stimuli was necessary to produce this effect. Method: Two groups of participants (students displaying anxious-depressive tendencies as the subclinical group and healthy students as the control group) had to detect deviant stimuli among frequent stimuli in oddball tasks. Experiment 1 involved either single faces (Single condition) or two similar faces presented side-by-side (Double condition). Experiment 2 involved audio (A), visual (V), bimodal congruent (AVC), and bimodal incongruent

(AVI) oddball tasks. Results: While the easiest Double condition produced the fastest reaction times and shortest P300 latencies, there were no significant differences in P300 modulation between the groups in Experiment 1. In Experiment 2, P300 amplitudes of the control group were higher in response to AVC tasks than in response to unimodal (A or V) or AVI tasks. Conclusions: The increased sensitivity of the P300 wave to subclinical differences that we observed here is not related to an enhanced discrimination effect. However, during bimodal tasks, stimulus congruency is necessary for the appearance of the increased P300 sensitivity. Significance: The impaired "bimodal congruence effect" in patients with subclinical depression/anxiety suggests these patients have altered integrative processes, which has potential implications for cognitive therapy.

https://dipot.ulb.ac.be/dspace/bitstream/2013/226569/1/Elsevier_210196.pdf

35. Veeseer, J., Vandriette, Y.-M., Kornreich, C., Brevers, D., Ammendola, S., Corten, P., & Verbanck, P. (2015, janvier 01). Mindfulness training as part of a treatment for psychological trauma caused by mobbing - A pilot study. *Acta psychiatrica Belgica*, 115, 5-11.

2014

36. Petit, G., Kornreich, C., Dan, B., Verbanck, P., & Campanella, S. (2014, novembre). Electrophysiological correlates of alcohol- and non-alcohol-related stimuli processing in binge drinkers: a follow-up study. *Journal of psychopharmacology*, 28(11), 1041-1052. doi:10.1177/0269881114545663

Abstract: The continuation of binge drinking is associated with the development of neurocognitive brain abnormalities similar to those observed in patients with alcohol dependence. Alcohol cue reactivity constitutes a risk marker for alcohol dependence. Through event-related potentials (ERPs), we aimed to examine its potential presence as well as its evolution over time in binge drinkers in a one-year period.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/185839/1/JofPsychopharmacol.pdf>

37. Brevers, D., Bechara, A., Hermoye, L., Divano, L., Kornreich, C., Verbanck, P., & Noël, X. (2014, septembre). Comfort for uncertainty in pathological gamblers: A fMRI study. *Behavioural brain research*. doi:10.1016/j.bbr.2014.09.026

Abstract: This study aimed to examine neural anticipation of monetary reward in pathological gamblers (PG) by varying the type of uncertainty associated with high-uncertain rewards. Ten PG and ten controls were scanned while deciding whether to accept ("bet" option, featuring high-uncertain monetary rewards) or reject ("safe" option, featuring low-certain rewards) a bet within situations of decision-making under risk (probability of the "bet" reward is known) or ambiguity (probability of the "bet" reward is unknown). During decision under risk (as compared to ambiguity), controls exhibited activation in brain areas involved in the reward processing (putamen), in interoception (insula) and in cognitive control (dorsolateral prefrontal cortex; middle frontal gyrus). In contrast, PG exhibited no differential brain activation as a function of the type of uncertainty associated with the "bet" option. Moreover, prior choosing of the "safe" option (as compared with "bet" choices), controls exhibited activation in the posterior insula, dorsolateral prefrontal cortex and middle frontal gyrus. In contrast, PG exhibited higher neural activation during the elaboration of "bet" choices and in motivational-arousal areas (caudate; putamen; posterior insula). Between-group contrasts revealed that, as compared to controls, PG showed (i) decreased neural activity in the globus pallidus for decision-making under risk as opposed to decision under ambiguity, and (ii) increased neural activity within the putamen prior to bet choices as opposed to safe choices. These findings suggest that (i) unlike control participants, a variation in the level of uncertainty associated with monetary rewards seems to have no significant impact on PG's decision to gamble and (ii) PG exhibit stronger brain activation while anticipating high-uncertain monetary rewards, as compared with lower safe rewards.

https://dipot.ulb.ac.be/dspace/bitstream/2013/176521/1/pdf_fmri.pdf

38. Brevers, D., Bechara, A., Cleeremans, A., Kornreich, C., Verbanck, P., & Noël, X. (2014, juillet). Impaired decision-making under risk in individuals with alcohol dependence. *Alcoholism, clinical and experimental research*, 38(7), 1924-1931. doi:10.1111/acer.12447

Abstract: Alcohol dependence is associated with poor decision-making under ambiguity, that is, when decisions are to be made in the absence of known probabilities of reward and loss. However, little is known regarding decisions made by individuals with alcohol dependence in the context of known probabilities (decision under risk). In this study, we investigated the relative contribution of these distinct aspects of decision-making to alcohol dependence.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/176522/3/176522.pdf>

39. Petit, G., Maurage, P., Kornreich, C., Verbanck, P., & Campanella, S. (2014, mars). Binge drinking in adolescents: A review of neurophysiological and neuroimaging research *Alcohol and alcoholism*, 49(2), agt172, 198-206. doi:10.1093/alcalc/agt172

Abstract: Aims: While the relationship between chronic exposure to alcohol and neurobiological damage is well established, deleterious brain effects of binge drinking in youths have only recently been studied. Methods: Narrative review of studies of brain disturbances associated with binge drinking as assessed by neuroimaging (EEG and IRMf techniques in particular) in adolescent drinkers. Results: Some major points still deserved to be investigated; directions for future research are suggested. Conclusions: Information and prevention programs should emphasize that binge drinking is not just inoffensive social fun, but if carried on, may contribute to the onset of cerebral disturbances possibly leading to alcohol dependence later in life. © The Author 2013. Medical Council on Alcohol and Oxford University Press. All rights reserved.

https://dipot.ulb.ac.be/dspace/bitstream/2013/169592/1/Final_full.pdf

40. Delle-Vigne, D., Kornreich, C., Verbanck, P., & Campanella, S. (2014, mars). Subclinical alexithymia modulates early audio-visual perceptive and attentional event-related potentials *Frontiers in Human Neuroscience*, 8(MAR), 106. doi:10.3389/fnhum.2014.00106

Abstract: Introduction: Previous studies have highlighted the advantage of using audio-visual oddball tasks (instead of unimodal ones) in order to electrophysiologically index subclinical behavioral differences. Since alexithymia is highly prevalent in the general population, we investigated whether the use of various bimodal tasks could elicit emotional effects in low- vs. high-alexithymic scorers. Methods: Fifty students (33 females and 17 males) were split into groups based on low and high scores on the Toronto Alexithymia Scale (TAS-20). During event-related potential (ERP) recordings, they were exposed to three kinds of audio-visual oddball tasks: neutral-AVN- (geometrical forms and bips), animal-AVA- (dog and cock with their respective shouts), or emotional-AVE- (faces and voices) stimuli. In each condition, participants were asked to quickly detect deviant events occurring amongst a train of repeated and frequent matching stimuli (e.g., push a button when a sad face-voice pair appeared amongst a train of neutral face-voice pairs). P100, N100, and P300 components were analyzed: P100 refers to visual perceptive and attentional processing, N100 to auditory ones, and the P300 relates to response-related stages, involving memory processes. Results: High-alexithymic scorers presented a particular pattern of results when processing the emotional stimulations, reflected in early ERP components by increased P100 and N100 amplitudes in the emotional oddball tasks [P100: $F(2, 48) = 20, 319, p < 0.001$; N100: $F(2, 96) = 8,807, p = 0.001$] as compared to the animal or neutral ones. Indeed, regarding the P100, subjects exhibited a higher amplitude in the AVE condition (8.717 μV), which was significantly different from that observed during the AVN condition (4.382 $\mu V, p < 0.001$). For the N100, the highest amplitude was found in the AVE condition (-4.035 μV) and the lowest was observed in the AVN condition (-2.687 $\mu V, p = 0.003$). However, no effect was found on the later P300 component. Conclusions: Our findings

suggest that high-alexithymic scorers require heightened early attentional resources in comparison to low scorers, particularly when confronted with emotional bimodal stimuli. © 2014 Delle-Vigne, Kornreich, Verbanck and Campanella.

41. Brevers, D., Noël, X., Bechara, A., Vanavermaete, N., Verbanck, P., & Kornreich, C. (2014, janvier). Effect of Casino-Related Sound, Red Light and Pairs on Decision-Making During the Iowa Gambling Task. *Journal of gambling studies*. doi:10.1007/s10899-013-9441-2

Abstract: Casino venues are often characterized by "warm" colors, reward-related sounds, and the presence of others. These factors have always been identified as a key factor in energizing gambling. However, few empirical studies have examined their impact on gambling behaviors. Here, we aimed to explore the impact of combined red light and casino-related sounds, with or without the presence of another participant, on gambling-related behaviors. Gambling behavior was estimated with the Iowa Gambling Task (IGT). Eighty non-gamblers participants took part in one of four experimental conditions (20 participants in each condition); (1) IGT without casino-related sound and under normal (white) light (control), (2) IGT with combined casino-related sound and red light (casino alone), (3) IGT with combined casino-related sound, red light and in front of another participant (casino competition-implicit), and (4) IGT with combined casino-related sound, red light and against another participant (casino competition-explicit). Results showed that, in contrast to the control condition, participants in the three "casino" conditions did not exhibit slower deck selection reaction time after losses than after rewards. Moreover, participants in the two "competition" conditions displayed lowered deck selection reaction time after losses and rewards, as compared with the control and the "casino alone" conditions. These findings suggest that casino environment may diminish the time used for reflecting and thinking before acting after losses. These findings are discussed along with the methodological limitations, potential directions for future studies, as well as implications to enhance prevention strategies of abnormal gambling.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/154941/1/igtcasinoenv.pdf>

42. Petit, G., cimochovska, A., Kornreich, C., Verbanck, P., & Campanella, S. (2014). Neurophysiological correlates of response inhibition predict relapse in detoxified alcoholic patients: some preliminary evidence from event-related potentials *Neuropsychiatric Disease and Treatment (Online)*, 10, 1025-1037. doi:10.2147/NDT.S61475

Abstract: Background: Alcohol dependence is a chronic relapsing disease. The impairment of response inhibition and alcohol-cue reactivity are the main cognitive mechanisms that trigger relapse. Despite the interaction suggested between the two processes, they have long been investigated as two different lines of research. The present study aimed to investigate the interaction between response inhibition and alcohol-cue reactivity and their potential link with relapse. Materials and methods: Event-related potentials were recorded during a variant of a "go/ no-go" task. Frequent and rare stimuli (to be inhibited) were superimposed on neutral, non-alcohol-related, and alcohol-related contexts. The task was administered following a 3-week detoxification course. Relapse outcome was measured after 3 months, using self-reported abstinence. There were 27 controls (seven females) and 27 patients (seven females), among whom 13 relapsed during the 3-month follow-up period. The no-go N2, no-go P3, and the "difference" wave (P3d) were examined with the aim of linking neural correlates of response inhibition on alcohol-related contexts to the observed relapse rate. Results: Results showed that 1) at the behavioral level, alcohol-dependent patients made significantly more commission errors than controls ($P < 0.001$), independently of context; 2) through the subtraction no-go P3 minus go P3, this inhibition deficit was neurophysiologically indexed in patients with greater P3d amplitudes ($P = 0.034$); and 3) within the patient group, increased P3d amplitude enabled us to differentiate between future relapsers and nonrelapsers ($P = 0.026$). Conclusion: Our findings suggest that recently detoxified alcoholics are characterized by poorer response-inhibition skills that demand greater neural resources. We propose that event-

related potentials can be used in conjunction with behavioral data to predict relapse; this would identify patients that need a higher level of neural resources when suppressing a response is requested.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/169422/1/NDT-61475.pdf>

43. Delle-Vigne, D., Kornreich, C., Verbanck, P., Campanella, S., & Wang, W. (2014). Emotional facial expression processing in depression: Data from behavioral and event-related potential studies *Neurophysiologie clinique*, 44(2), 169-187. doi:10.1016/j.neucli.2014.03.003

Abstract: Behavioral literature investigating emotional processes in depressive populations (i.e., unipolar and bipolar depression) states that, compared to healthy controls, depressive subjects exhibit disrupted emotional processing, indexed by lower performance and/or delayed response latencies. The development of brain imaging techniques, such as functional magnetic resonance imaging (fMRI), provided the possibility to visualize the brain regions engaged in emotional processes and how they fail to interact in psychiatric diseases. However, fMRI suffers from poor temporal resolution and cognitive function involves various steps and cognitive stages (serially or in parallel) to give rise to a normal performance. Thus, the origin of a behavioral deficit may result from the alteration of a cognitive stage differently situated along the information-processing stream, outlining the importance of access to this dynamic "temporal" information. In this paper, we will illustrate, through depression, the role that should be attributed to cognitive event-related potentials (ERPs). Indeed, owing to their optimal temporal resolution, ERPs can monitor the neural processes engaged in disrupted cognitive function and provide crucial information for its treatment, training of the impaired cognitive functions and guidelines for clinicians in the choice and monitoring of appropriate medication for the patient. © 2014 Elsevier Masson SAS.

https://dipot.ulb.ac.be/dspace/bitstream/2013/204288/1/Elsevier_187915.pdf

44. Dhondt, F., Campanella, S., Kornreich, C., Philippot, P., & Maurage, P. (2014). Below and beyond the recognition of emotional facial expressions in alcohol dependence: From basic perception to social cognition *Neuropsychiatric Disease and Treatment (Print)*, 10, 2177-2182. doi:10.2147/NDT.S74963

Abstract: Studies that have carried out experimental evaluation of emotional skills in alcohol-dependence have, up to now, been mainly focused on the exploration of emotional facial expressions (EFE) decoding. In the present paper, we provide some complements to the recent systematic literature review published by Donadon and de Lima Osório on this crucial topic. We also suggest research avenues that must be, in our opinion, considered in the coming years. More precisely, we propose, first, that a battery integrating a set of emotional tasks relating to different processes should be developed to better systemize EFE decoding measures in alcohol-dependence. Second, we propose to go below EFE recognition deficits and to seek for the roots of those alterations, particularly by investigating the putative role played by early visual processing and vision–emotion interactions in the emotional impairment observed in alcohol-dependence. Third, we insist on the need to go beyond EFE recognition deficits by suggesting that they only constitute a part of wider emotional deficits in alcohol-dependence. Importantly, since the efficient decoding of emotions is a crucial ability for the development and maintenance of satisfactory interpersonal relationships, we suggest that disruption of this ability in alcohol-dependent individuals may have adverse consequences for their social integration. One way to achieve this research agenda would be to develop the field of affective and social neuroscience of alcohol-dependence, which could ultimately lead to major advances at both theoretical and therapeutic levels.

2013

45. Brevers, D., Noël, X., Ermer, E., Dabiri, D., Verbanck, P., & Kornreich, C. (2013, décembre). Unfairness sensitivity and social decision-making in individuals with alcohol

dependence: A preliminary study. *Drug and alcohol dependence*, 133(2), 772-775.
doi:10.1016/j.drugalcdep.2013.08.013

Abstract: Altruistic punishment is an evolutionary-based mechanism aimed at maximizing the probability of reciprocity in cooperative exchanges, through the deterrence of non-cooperators. In economic games, humans will often punish others for non-cooperation, even if this punishment is costly to the self. For instance, in the Ultimatum Game paradigm, people refuse offers considered as unfair even though they are disadvantaged financially by doing so. Here, we hypothesize that, due to an impulsive decision making style, individuals with alcoholism will display an heightened unfairness sensitivity that leads them to reject advantageous offers more frequently on the Ultimatum Game.

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[https://dipot.ulb.ac.be/dspace/bitstream/2013/151302/1/](https://dipot.ulb.ac.be/dspace/bitstream/2013/151302/1/DrugandAlcoholDependence2013.pdf)

[DrugandAlcoholDependence2013.pdf](https://dipot.ulb.ac.be/dspace/bitstream/2013/151302/1/DrugandAlcoholDependence2013.pdf)

46. Petit, G., Kornreich, C., Verbanck, P., & Campanella, S. (2013, octobre). Gender differences in reactivity to alcohol cues in binge drinkers: a preliminary assessment of event-related potentials. *Psychiatry research*, 209(3), 494-503. doi:10.1016/j.psychres.2013.04.005

Abstract: Binge drinking is associated with functional brain abnormalities similar to those observed in alcoholics and can be viewed as a first step towards alcohol dependence. Adult men are twice as likely as women to develop alcoholism. This study investigates (1) the presence of alcohol cue reactivity in bingers, a feature that has been proposed to underlie the emergence of alcohol dependence; and (2) a possible higher alcohol cue reactivity in men binge drinkers which could explain their higher risk for alcohol use disorders in adulthood. The P3 component of the event-related potentials (ERPs) was recorded during a visual oddball task in which controls (n=27: 10 men and 17 women) and binge drinkers (n=29: 15 men and 14 women) had to detect infrequent deviant stimuli (related to alcohol or not) among frequent neutral stimuli. Results showed that binge drinkers, compared to light drinkers, displayed increased P3 reactivity to alcohol related cues with a greater effect among men. Our results suggest the phenomenon of alcohol cue reactivity to be a possible avenue by which a higher risk population, binge drinkers, and men in particular, are prone to develop problematic alcohol use.

https://dipot.ulb.ac.be/dspace/bitstream/2013/153707/3/Elsevier_138348.pdf

47. Chaouachi, M. A., Verbanck, P., & Kornreich, C. (2013, octobre). La stimulation magnétique transcrânienne dans le traitement de la dépression *Revue médicale de Bruxelles*, 34(5), 416-422.

Abstract: Major depression disorder is a frequent psychiatric condition with serious consequences. Many patients don't respond to usual psychopharmacological and/or psychotherapeutic treatments. This observation has stimulated the research of alternative treatment options. Repeated transcranial magnetic stimulation (rTMS) is a recent therapeutic tool with few side effects. Its efficacy relies on stimulation of cortical networks through the application of a magnetic field on the skull. rTMS has been approved as a full therapeutic option for major depressive disorder by the FDA in 2008. It could therefore be routinely used in the future and complete the usual treatments in this condition. Our paper reviews what is currently known about the clinical use of rTMS in major depressive disorder.

48. Kornreich, C., Brevers, D., Ermer, E., Hanak, C., Verbanck, P., Campanella, S., & Noël, X. (2013, octobre). Polysubstance dependent patients display a more utilitarian profile in moral decision-making than alcohol-dependent patients, depressive patients and controls. *Drug and alcohol dependence*, 132(3), 434-440. doi:10.1016/j.drugalcdep.2013.03.005

Abstract: Addiction has been shown to be associated with the endorsement of utilitarian moral judgments. Ventro-medial prefrontal cortex (VMPFC) dysfunction may explain these findings.
https://dipot.ulb.ac.be/dspace/bitstream/2013/198987/1/Elsevier_182614.pdf

49. Brevers, D., Cleeremans, A., Hermant, C., Tibboel, H., Kornreich, C., Verbanck, P., & Noël, X. (2013, mars). Implicit gambling attitudes in problem gamblers: positive but not negative implicit associations. *Journal of behavior therapy and experimental psychiatry*, 44(1), 94-97. doi:10.1016/j.jbtep.2012.07.008

Abstract: Implicit attitudes (associations) are involved in the generation of substance use behaviors. However, little is known about the role of this automatic cognitive processing in deregulated behaviors without substance use, such as abnormal gambling. This study examined whether problem gamblers exhibit both positive and negative implicit attitudes toward gambling-related stimuli.
https://dipot.ulb.ac.be/dspace/bitstream/2013/138007/4/Elsevier_120929.pdf
<https://dipot.ulb.ac.be/dspace/bitstream/2013/138007/1/pdtiat.pdf>

50. Kornreich, C., Brevers, D., Canivet, D., Ermer, E., Naranjo, C., Constant, E., Verbanck, P., Campanella, S., & Noël, X. (2013, janvier). Impaired processing of emotion in music, faces and voices supports a generalized emotional decoding deficit in alcoholism. *Addiction*, 108(1), 80-88. doi:10.1111/j.1360-0443.2012.03995.x

Abstract: To test the generalized emotional decoding impairment hypothesis in alcoholism.
<https://dipot.ulb.ac.be/dspace/bitstream/2013/138008/1/AddictionMusic2013.pdf>
<https://dipot.ulb.ac.be/dspace/bitstream/2013/138008/4/138008.pdf>

51. Aubin, H., Berlin, I., & Kornreich, C. (2013). The evolutionary puzzle of suicide *International journal of environmental research and public Health*, 10(12), 6873-6886. doi:10.3390/ijerph10126873

Abstract: Mechanisms of self-destruction are difficult to reconcile with evolution's first rule of thumb: survive and reproduce. However, evolutionary success ultimately depends on inclusive fitness. The altruistic suicide hypothesis posits that the presence of low reproductive potential and burdensomeness toward kin can increase the inclusive fitness payoff of self-removal. The bargaining hypothesis assumes that suicide attempts could function as an honest signal of need. The payoff may be positive if the suicidal person has a low reproductive potential. The parasite manipulation hypothesis is founded on the rodent-Toxoplasma gondii host-parasite model, in which the parasite induces a "suicidal" feline attraction that allows the parasite to complete its life cycle. Interestingly, latent infection by T. gondii has been shown to cause behavioral alterations in humans, including increased suicide attempts. Finally, we discuss how suicide risk factors can be understood as nonadaptive byproducts of evolved mechanisms that malfunction. Although most of the mechanisms proposed in this article are largely speculative, the hypotheses that we raise accept self-destructive behavior within the framework of evolutionary theory. © 2013 by the authors; licensee MDPI, Basel, Switzerland.

52. Petit, G., Kornreich, C., Verbanck, P., Cimochovska, A., & Campanella, S. (2013). Why is adolescence a key period of alcohol initiation and who is prone to develop long-term problem use?: A review of current available data. *Socioaffective neuroscience & psychology*, 3, 21890. doi:10.3402/snp.v3i0.21890

Abstract: Early adolescence is a key developmental period for the initiation of alcohol use, and consumption among adolescents is characterized by drinking in high quantities. At the same time,

adolescence is characterized by rapid biological transformations including dramatic changes in the brain, particularly in the prefrontal cortex and the mesocorticolimbic dopamine system.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/187524/1/PMC3960066.pdf>

2012

53. Brevers, D., Cleeremans, A., Goudriaan, A. E., Bechara, A., Kornreich, C., Verbanck, P., & Noël, X. (2012, décembre). Decision making under ambiguity but not under risk is related to problem gambling severity. *Psychiatry research*, 200(2-3), 568-574. doi:10.1016/j.psychres.2012.03.053

Abstract: The aim of the present study was to examine the relationship between problem gambling severity and decision-making situations that vary in two degrees of uncertainty (probability of outcome is known: decision-making under risk; probability of outcome is unknown: decision-making under ambiguity). For this purpose, we recruited 65 gamblers differing in problem gambling severity and 35 normal controls. Decision-making under ambiguity was assessed with the Iowa Gambling Task (IGT) and the Card Playing Task (CPT). Decision-making under risk was assessed with the Coin Flipping Task (CFT) and the Cups Task. In addition, we included an examination of two working memory components (verbal storage and dual tasking). Results show that problem gamblers performed worse than normal controls on both ambiguous and risky decision-making. Higher problem gambling severity scores were associated with poorer performance on ambiguous decision-making tasks (IGT and CPT) but not decision-making under risk. Additionally, we found that dual task performance correlated positively with decision-making under risk (CFT and Cups tasks) but not with decision-making under ambiguity (IGT and CPT). These results suggest that impairments in decision-making under uncertain conditions of problem gamblers may represent an important neurocognitive mechanism in the maintenance of their problem gambling.

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https://dipot.ulb.ac.be/dspace/bitstream/2013/138009/4/Elsevier_120931.pdf

54. Brevers, D., Cleeremans, A., Bechara, A., Greisen, M., Kornreich, C., Verbanck, P., & Noël, X. (2012, novembre). Impaired Metacognitive Capacities in Individuals with Problem Gambling. *Journal of gambling studies*. doi:10.1007/s10899-012-9348-3

Abstract: Impaired insight into behavior may be one of the clinical characteristics of pathological gambling. In the present study, we tested whether the capacity to evaluate accurately the quality of one's own decisions during a non-gambling task was impaired in problem gamblers. Twenty-five problem gamblers and 25 matched healthy participants performed an artificial grammar-learning paradigm, in which the quality of choice remains uncertain throughout the task. After each trial of this task, participants had to indicate how confident they were in the grammaticality judgements using a scale ranging from 1 (low confidence) to 7 (high confidence). Results showed that (i), problem gamblers' performance on the grammaticality test was lower than controls'; (ii) there was a significant correlation between grammaticality judgments and confidence for control participants, which indicates metacognitive insight and the presence of conscious knowledge; (iii) this correlation was not significant in problem gamblers, which suggests a disconnection between performance and confidence in this group. These findings suggest that problem gamblers are impaired in their metacognitive abilities on a non-gambling task, which suggests that compulsive gambling is associated with poor insight as a general factor. Clinical interventions tailored to improve metacognition in gambling could be a fruitful avenue of research in order to prevent pathological gambling.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/138001/1/pdfgram.pdf>

55. Noël, X., Van der Linden, M., Brevers, D., Campanella, S., Verbanck, P., Hanak, C., Kornreich, C., & Verbruggen, F. (2012, septembre). Separating intentional inhibition

of prepotent responses and resistance to proactive interference in alcohol-dependent individuals. *Drug and alcohol dependence*. doi:10.1016/j.drugalcdep.2012.08.021

Abstract: BACKGROUND: Impulsivity is a hallmark of addictive behaviors. Addicts' weakened inhibition of irrelevant prepotent responses is commonly thought to explain this association. However, inhibition is not a unitary mechanism. This study investigated the efficiency of overcoming competition due to irrelevant responses (i.e., inhibition of a prepotent response) and overcoming competition in memory (i.e., resistance to proactive interference) in sober and recently detoxified alcohol-dependent individuals. METHODS: Three cognitive tasks assessing the inhibition of a prepotent response (Hayling task, anti-saccade task and Stroop task) and two tasks tapping into the capacity to resist proactive interference (cued recall, Brown-Peterson variant) were administered to 30 non-amnesic recently detoxified alcohol-dependent individuals and 30 matched healthy participants without alcohol dependency. In addition, possible confounds such as verbal updating in working memory was assessed. RESULTS: Alcohol-dependent subjects performed worse than healthy participants on the three cognitive tasks assessing the inhibition of irrelevant prepotent responses but group performance was similar in the tasks assessing overcoming proactive interference in memory, updating of working memory and abstract reasoning. CONCLUSIONS: These findings suggest that alcohol-dependence is mainly associated with impaired capacity to intentionally suppress irrelevant prepotent response information. Control of proactive interference from memory is preserved. Theoretical and clinical implications are discussed.

https://dipot.ulb.ac.be/dspace/bitstream/2013/138002/5/Elsevier_120923.pdf

<https://dipot.ulb.ac.be/dspace/bitstream/2013/138002/2/DADNOELVERBRUGGEN2013.pdf>

56. Noël, X., Van der Linden, M., Brevers, D., Campanella, S., Hanak, C., Kornreich, C., & Verbanck, P. (2012, juin). The contribution of executive functions deficits to impaired episodic memory in individuals with alcoholism. *Psychiatry research*, 198(1), 116-122. doi:10.1016/j.psychres.2011.10.007

Abstract: Individuals with alcoholism commonly exhibit impaired performance on episodic memory tasks. However, the contribution of their impaired executive functioning to poor episodic memory remains to be clarified. Thirty-six recently detoxified and sober asymptomatic alcoholic men and 36 matched non-alcoholic participants were tested for processing speed, prepotent response inhibition, mental flexibility, coordination of dual-task and a verbal episodic memory task. Compared with non-alcoholic individuals, the alcoholic patients showed impaired executive functions combined with below normal performance on both free and delayed recall. In contrast, processing speed, cued recall and recognition were preserved. Regression analyses revealed that 47% of alcoholics' episodic memory's free recall performance was predicted by mental flexibility and that 49% of their delayed recall performance was predicted by mental flexibility, manipulation of dual-task and prepotent response inhibition. Regarding participants' executive predictors of episodic memory performance, the slopes of β coefficients were significantly different between the two groups, with alcoholics requiring more their executive system than non-alcoholics. Once detoxified, alcoholic patients showed episodic memory deficits mainly characterized by impaired effortful (executive) processes. Compared with controls, patients used effortful learning strategies, which are nonetheless less efficient.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/138014/1/PsychiatryResearch2012.pdf>

https://dipot.ulb.ac.be/dspace/bitstream/2013/138014/4/Elsevier_120936.pdf

57. Petit, G., Kornreich, C., Noël, X., Verbanck, P., & Campanella, S. (2012, mai). Alcohol-related context modulates performance of social drinkers in a visual Go/No-Go task: a preliminary assessment of event-related potentials *PLoS one*, 7(5), e37466. doi:10.1371/journal.pone.0037466

Abstract: Background Increased alcohol cue-reactivity and altered inhibitory processing have been reported in heavy social drinkers and alcohol-dependent patients, and are associated with relapse. In social drinkers, these two processes have been usually studied separately by recording event-related potentials (ERPs) during rapid picture presentation. The aim of our study was to confront social drinkers to a task triggering high alcohol cue-reactivity, to verify whether it specifically altered inhibitory performance, by using long-lasting background picture presentation. Methods ERP were recorded during visual Go/No-Go tasks performed by social drinkers, in which a frequent Go signal (letter "M"), and a rare No-Go signal (letter "W") were superimposed on three different types of background pictures: neutral (black background), alcohol-related and non alcohol-related. Results Our data suggested that heavy social drinkers made more commission errors than light drinkers, but only in the alcohol-related context. Neurophysiologically, this was reflected by a delayed No-Go P3 component. Conclusions Elevated alcohol cue-reactivity may lead to poorer inhibitory performance in heavy social drinkers, and may be considered as an important vulnerability factor in developing alcohol misuse. Prevention programs should be designed to decrease the high arousal of alcohol stimuli and strengthen cognitive control in young, at-risk individuals.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/118671/1/journal.pone.0037466.pdf>

58. Kornreich, C., & Aubin, H. J. (2012, mars). Religion et fonctionnement du cerveau (partie 2): Les religions jouent-elles un rôle favorable sur la santé mentale? *Revue médicale de Bruxelles*, 33(2), 87-96.

Abstract: Religion's impact on mental health has been largely studied, but results are often difficult to interpret due to methodological concerns : definition of religion and of spirituality ; measuring issues ; identification of specific components such as social dimension, cognitive schemas influencing world perception and meditating behaviors such as prayers. Furthermore, correlations between religious dimensions and mental health variables are too often considered as evidence of causality. Despite all those methodological problems, it appears that religiosity, defined as a global concept encompassing all aspects of religious life, might be a protective factor against several mental health problems, namely substance abuse, depression, suicide and anxiety disorders. This protective property isn't likely due to religions per se, but to associated components : risky behaviors' prevention due to shared moral standards, social support, sense of meaning, purposefulness and control, and meditation habits, exercising an inhibiting influence on chronic stress.

59. Brevers, D., Cleeremans, A., Verbruggen, F., Bechara, A., Kornreich, C., Verbanck, P., & Noël, X. (2012). Impulsive action but not impulsive choice determines problem gambling severity. *PloS one*, 7(11), e50647. doi:10.1371/journal.pone.0050647

Abstract: Impulsivity is a hallmark of problem gambling. However, impulsivity is not a unitary construct and this study investigated the relationship between problem gambling severity and two facets of impulsivity: impulsive action (impaired ability to withhold a motor response) and impulsive choice (abnormal aversion for the delay of reward).

<https://dipot.ulb.ac.be/dspace/bitstream/2013/137995/1/PMC3507734.pdf>

60. Brevers, D., Cleeremans, A., Bechara, A., Greisen, M., Kornreich, C., Verbanck, P., & Noël, X. (2012, janvier). Impaired Self-Awareness in Pathological Gamblers. *Journal of gambling studies*. doi:10.1007/s10899-012-9292-2

Abstract: Lack of self-awareness of one's decisions remains an understudied and elusive topic in the addiction literature. The present study aimed at taking a first step towards addressing this difficult subject through the use of a combination of behavioral procedures. Here, we explored the association between a metacognitive process (the ability to reflect and evaluate the awareness of one's own decision) and poor performance on the Iowa Gambling Task (IGT) in a group of pathological gamblers (PG; n = 30), and in a comparison group (n = 35). This metacognitive process

was assessed during the IGT with the post-decision wagering procedure, while a number of potential confounds (i.e., reward/loss sensitivity, dual-tasking) were controlled for. Results showed that: (1) Initial performance enhancement of the control group on IGT occurred without explicit knowledge of the task, thus confirming its implicit character; (2) compared to controls, performance of PG on the IGT failed to increase during the task; (3) taking into account increased reward sensitivity and decreased loss sensitivity as well as poorer dual-tasking in pathological gamblers, PG tended to exhibit a bias in evaluating their own performance on the IGT by maximizing their wagers independently of selecting advantageous decks. Our findings suggest that biased metacognition may affect pathological gamblers, leading to disadvantageous post-decision wagering, which is in turn linked to impaired decision making under ambiguity. Perhaps this deficit reflects the impaired insight and self-awareness that many addicts suffer from, thus providing a novel approach for capturing and measuring this impairment, and for investigating its possible causes.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/138010/1/pdfigt.pdf>

2011

61. Brevers, D., Cleeremans, A., Bechara, A., Laloyaux, C., Kornreich, C., Verbanck, P., & Noël, X. (2011, décembre). Time course of attentional bias for gambling information in problem gambling. *Psychology of addictive behaviors*, 25(4), 675-682. doi:10.1037/a0024201

Abstract: There is a wealth of evidence showing enhanced attention toward drug-related information (i.e., attentional bias) in substance abusers. However, little is known about attentional bias in deregulated behaviors without substance use such as abnormal gambling. This study examined whether problem gamblers (PrG, as assessed through self-reported gambling-related craving and gambling dependence severity) exhibit attentional bias for gambling-related cues. Forty PrG and 35 control participants performed a change detection task using the flicker paradigm, in which two images differing in only one aspect are repeatedly flashed on the screen until the participant is able to report the changing item. In our study, the changing item was either neutral or related to gambling. Eye movements were recorded, which made it possible to measure both initial orienting of attention as well as its maintenance on gambling information. Direct (eye-movements) and indirect (change in detection latency) measures of attention in individuals with problematic gambling behaviors suggested the occurrence of both engagement and of maintenance attentional biases toward gambling-related visual cues. Compared to nonproblematic gamblers, PrG exhibited (a) faster reaction times to gambling-cues as compared to neutral cues, (b) higher percentage of initial saccades directed toward gambling pictures, and (c) an increased fixation duration and fixation count on gambling pictures. In the PrG group, measures of gambling-related attentional bias were not associated with craving for gambling and gambling dependence severity. Theoretical and clinical implications of these results are discussed.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/138011/1/pdflicker.pdf>

62. Campanella, S., Delle-Vigne, D., Kornreich, C., & Verbanck, P. (2011, novembre). Greater sensitivity of the P300 component to bimodal stimulation in an event-related potentials oddball task. *Clinical neurophysiology*. doi:10.1016/j.clinph.2011.10.041

Abstract: OBJECTIVE: Studies that explore neurophysiological correlates of psychiatric disorders have commonly used event-related potentials during a visual or an auditory oddball task with the main results being changes in the P300 component. In the present study, a bimodal oddball design with synchronized pairs of audio-visual stimuli was used to further improve the clinical sensitivity of the P300. METHODS: Two groups of healthy participants, one consisting of students displaying anxious-depressive tendencies and the other of control students, completed visual, auditory and two kinds of audio-visual oddball task (one using emotional stimuli and the other using geometrical figures and simple sounds), in which they had to detect deviant rare stimuli among more frequently presented standard stimuli as quickly as possible. Behavioral performance and P300 data were

analyzed. RESULTS: The subjects with anxious and depressive tendencies had lower P300 amplitudes than controls, but only in the bimodal tasks. CONCLUSIONS: Although the two groups differed in their levels of anxiety and depression, only the bimodal tasks were able to identify these differences. SIGNIFICANCES: These results suggest that a bimodal oddball design should be used in future studies to increase the sensitivity of P300 differences for differentiating between healthy participants and those with clinical symptoms.

https://dipot.ulb.ac.be/dspace/bitstream/2013/107399/1/Elsevier_87484.pdf

63. Petit, G., Kornreich, C., Maurage, P., Noël, X., Letesson, C., Verbanck, P., & Campanella, S. (2011, novembre). Early attentional modulation by alcohol-related cues in young binge drinkers: An event-related potentials study. *Clinical neurophysiology*, 123(5), 925-936. doi:10.1016/j.clinph.2011.10.042

Abstract: OBJECTIVE: Episodic excessive alcohol consumption (i.e., binge drinking) is now considered to be a major concern in our society. Previous studies have shown that alcohol cues can capture attentional resources in chronic alcoholic populations and that the phenomenon is associated with the development and maintenance of alcoholism. Using event-related potentials (ERPs), we investigated the responses of binge drinkers to alcohol-related pictures. METHODS: Two groups of college students (n=18 in each group) were recruited for the study. One group was composed of binge drinkers and the other of controls. Each student completed a simple visual oddball paradigm in which alcohol-related and non-alcohol-related pictures (positive, neutral or negative) were presented. ERPs were recorded to explore the electrophysiological activity associated with the processing of each cue during the different cognitive steps. RESULTS: Although there were no behavioural differences between the two groups after detection of alcohol- and non-alcohol-related cues, the ERP data indicated that processing of alcohol-related stimuli was modulated by binge drinking: in the binge drinkers, the P100 amplitudes elicited by the alcohol-related pictures were significantly larger than those elicited by the non-alcohol pictures. CONCLUSIONS: The present study provides evidence for an early processing enhancement, indexed by increased P100 amplitude, in binge drinkers when confronted with alcohol cues. SIGNIFICANCE: These findings suggest that higher reactivity to alcohol cues is not a phenomenon limited to adult alcoholics, but that young binge drinkers exhibit signs of prioritizing processing related to alcohol. Prevention intervention for alcohol misuse in young people should consider approaches that address this automatic cue reactivity.

https://dipot.ulb.ac.be/dspace/bitstream/2013/107397/1/Elsevier_87483.pdf

64. Kornreich, C., Delle-Vigne, D., Campanella, S., Noël, X., Papageorgiou, C., Brown, O., Verbanck, P., & Ermer, E. (2011, octobre). Conditional reasoning difficulties in polysubstance-dependent patients. *Psychology of addictive behaviors*. doi:10.1037/a0025841

Abstract: Polysubstance dependence has been associated with many neurocognitive impairments. The present study explored one of these deficits, namely conditional reasoning, using the Wason selection task. In healthy individuals, social contract and precautionary content improve conditional reasoning performance compared with descriptive or abstract content. Twenty-two recently detoxified polysubstance-dependent patients were compared with 22 controls matched for sex, age, and education level on their performance on the Wason selection task across problems involving social contract, precautionary, and descriptive conditional rules, controlling for depression, anxiety levels, and verbal intelligence. Conditional reasoning on descriptive and social contract rules was severely impaired in polysubstance-dependent patients. Precautionary reasoning was also impaired, but to a lesser degree than the other modalities of conditional reasoning. These results may reflect a toxic effect of chronic multiple-drug consumption on the prefrontal areas of the brain. Alternatively, conditional reasoning difficulties could be present, at least partially, before polysubstance dependence onset. This population may have difficulties properly understanding

social contracts in real-life settings, suggesting a potential target for clinical intervention. (PsycINFO Database Record (c) 2011 APA, all rights reserved).

65. Brevers, D., Cleeremans, A., Tibboel, H., Bechara, A., Kornreich, C., Verbanck, P., & Noël, X. (2011, septembre). Reduced attentional blink for gambling-related stimuli in problem gamblers. *Journal of behavior therapy and experimental psychiatry*, 42(3), 265-269. doi:10.1016/j.jbtep.2011.01.005

Abstract: Although there is considerable information concerning the attentional biases in psychoactive substance use and misuse, much less is known about the contribution of attentional processing in problem gambling. The aim of this study was to examine whether problem gamblers (PrG) exhibit attentional bias at the level of the encoding processing stage. Forty PrG and 35 controls participated in an attentional blink (AB) paradigm in which they were required to identify both gambling and neutral words that appeared in a rapid serial visual presentation. Explicit motivation (e.g., intrinsic/arousal, extrinsic, amotivation) toward the gambling cues was recorded. A diminished AB effect for gambling-related words compared to neutral targets was identified in PrG. In contrast, AB was similar when either gambling-related or neutral words were presented to controls. Furthermore, there was a significant positive correlation between the reduced AB for gambling-related words and the sub-score of intrinsic/arousal motivation to gamble in PrG. Such findings suggest that the PrG group exhibits an enhanced ability to process gambling-related information, which is associated with their desire to gamble for arousal reasons. Theoretical and clinical implications of these results are discussed.

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https://dipot.ulb.ac.be/dspace/bitstream/2013/138244/4/Elsevier_121184.pdf

66. Dagrada, H., Verbanck, P., & Kornreich, C. (2011, septembre). Le burn-out du médecin généraliste: Hypothèses étiologiques *Revue médicale de Bruxelles*, 32(4), 407-412.

Abstract: This paper aims to review current knowledge on risk factors leading to burn-out of general practitioners, who are particularly concerned by burn-out, as 50% of them are being more or less affected. This article is based on bibliographic research covering literature between 1975 and 2010, using PUB MED software, medical books and articles. 44 articles were selected as dealing well with the aspects of the burn-out reviewed here. It seems established that stress precedes burn-out symptoms. Theories Investigating relationships between stress and work are presented. Exogenic stress (load and organization of work, emotional interaction with the patient, constraints, lack of recognition, conflicts between private and professional life) interacts with endogenous stress (idealism, (too much) acute feeling of responsibility, mood disorder, difficulty in collaborating, character, personality). Burn-out symptoms would appear preferentially when these two stresses coexist Despite the wealth of publications, there is still a lack of knowledge of the causes of burn-out, requiring therefore increased research efforts, in order to improve the implementation of preventive measures, beneficial to the doctors as well as to their patients.

67. Kornreich, C., Delle-Vigne, D., Knittel, J., Nerinx, A., Campanella, S., Noël, X., Hanak, C., Verbanck, P., & Ermer, E. (2011, mai). Impaired conditional reasoning in alcoholics: a negative impact on social interactions and risky behaviors? *Addiction*, 106(5), 951-959. doi:10.1111/j.1360-0443.2010.03346.x

Abstract: To study the 'social brain' in alcoholics by investigating social contract reasoning, theory of mind and emotional intelligence.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/107392/1/AddictionConditionalReasoningAlcoholism2011.pdf>

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<https://dipot.ulb.ac.be/dspace/bitstream/2013/107392/4/107392.pdf>

68. Naranjo, C., Kornreich, C., Campanella, S., Noël, X., Vandriette, Y.-M., Gillain, B., De Longueville, X., Delatte, B., Verbanck, P., & Constant, E. (2011). Major depression is associated with impaired processing of emotion in music as well as in facial and vocal stimuli *Journal of affective disorders*, 128, 243-251. doi:10.1016/j.jad.2010.06.039

Abstract: Background: The processing of emotional stimuli is thought to be negatively biased in major depression. This study investigates this issue using musical, vocal and facial affective stimuli. Methods:: 23 depressed in-patients and 23 matched healthy controls were recruited. Affective information processing was assessed through musical, vocal and facial emotion recognition tasks. Depression, anxiety level and attention capacity were controlled. Results:: The depressed participants demonstrated less accurate identification of emotions than the control group in all three sorts of emotion-recognition tasks. The depressed group also gave higher intensity ratings than the controls when scoring negative emotions, and they were more likely to attribute negative emotions to neutral voices and faces. Limitations:: Our in-patient group might differ from the more general population of depressed adults. They were all taking anti-depressant medication, which may have had an influence on their emotional information processing. Conclusions:: Major depression is associated with a general negative bias in the processing of emotional stimuli. Emotional processing impairment in depression is not confined to interpersonal stimuli (faces and voices), being also present in the ability to feel music accurately. © 2010 Elsevier B.V.

https://dipot.ulb.ac.be/dspace/bitstream/2013/107414/1/Elsevier_87499.pdf

69. Campanella, S., Petit, G., Verbanck, P., Kornreich, C., & Noël, X. (2011). How cognitive assessment through clinical neurophysiology may help to optimize chronic alcoholism treatment *Neurophysiologie clinique*, 41, 115-123.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/107415/1/NEUCLI-D-10-00028R1.pdf>

70. Noël, X., Brevers, D., Bechara, A., Hanak, C., Kornreich, C., Verbanck, P., & Le Bon, O. (2011). Neurocognitive determinants of novelty and sensation-seeking in individuals with alcoholism. *Alcohol and alcoholism*, 46(4), 407-415. doi:10.1093/alcalc/agr048

Abstract: Sober alcoholic abusers exhibit personality traits such as novelty-seeking (NS) and sensation-seeking, which overlap to a limited extent. In parallel, they also show impaired executive and decision-making processes. However, little is known about the specific and common cognitive processes associated with NS and sensation-seeking personality traits in detoxified sober alcoholic abusers.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/138015/1/pdf.pdf>

2010

71. Petit, G., Noël, X., Kornreich, C., Verbanck, P., & Campanella, S. (2010, décembre 31). Apport de la neuroimagerie fonctionnelle dans la compréhension des troubles cognitifs dans l'alcoolisme: illustration par les troubles de l'inhibition et des biais attentionnels *Acta psychiatrica Belgica*, 110(4), 8-20.

<https://dipot.ulb.ac.be/dspace/bitstream/2013/68018/1/ActaPsychBelgica2012.pdf>

72. Campanella, S., Bruyer, R., Froidbise, S., Rossignol, M., Joassin, F., Kornreich, C., Noël, X., & Verbanck, P. (2010, novembre). Is two better than one? A cross-modal oddball paradigm reveals greater sensitivity of the P300 to emotional face-voice associations *Clinical neurophysiology*, 121(11), 1855-1862. doi:10.1016/j.clinph.2010.04.004

Abstract: Objective: Studies exploring neurophysiological correlates of main psychiatric disorders have commonly used event-related potentials (ERP) during a visual or an auditory oddball task. The main results concern modulations of the P3b amplitude and/or latency. The present study aims to increase the clinical sensitivity of these P3b modulations by using a more ecological oddball design, using synchronized pairs of audio-visual emotional stimuli. Method: Two groups of healthy participants, one composed of controls and the other of students displaying anxious and depressive tendencies completed visual, auditory and audio-visual (cross-modal) oddball tasks, in which they had to detect deviant happy and sad stimuli among neutral ones as quickly as possible. Behavioral performance and P3b ERP data were analyzed. Results: Subjects displaying anxious and depressive tendencies exhibited lower P3b amplitude than the controls, but only in the cross-modal oddball task. Conclusions: Although the two groups of subjects differed in their levels of co-morbid anxiety and depression, unimodal visual and auditory oddball tasks did not allow us to detect this difference by P3b amplitude modulations, but the cross-modal task did. Significance: These results suggest that a cross-modal oddball design should be used in future studies to increase the sensitivity of the P300 amplitude differences between healthy participants and those with clinical symptoms. © 2010 International Federation of Clinical Neurophysiology.

https://dipot.ulb.ac.be/dspace/bitstream/2013/169544/1/ClinNeurophysiol_2010.pdf

73. Mary-Rabine, S., Demulder, A., Fossion, P., Dan, B., & Kornreich, C. (2010, octobre). Neutropenia as a class effect of antipsychotic agents: a case report. *Journal of clinical psychopharmacology*, 30(5), 639-640. doi:10.1097/JCP.0b013e3181f100d4
74. Kornreich, C. (2010, mai). Emotion perception in psychopathology: implications for future research *Developmental medicine and child neurology*, 52(Supplément S4), 12. doi:10.1111/j.1469-8749.2010.03682.x
<https://dipot.ulb.ac.be/dspace/bitstream/2013/68066/3/68066.pdf>
75. Kornreich, C., Dan, B., & Vandriette, Y.-M. (2010). Suicidal risk in a patient receiving tamoxifen treatment for breast cancer. *Primary care companion to the Journal of clinical psychiatry*, 12(2). doi:10.4088/PCC.09100828blu
76. Kornreich, C., Vandriette, Y.-M., & Dan, B. (2010). Tamoxifen treatment in breast cancer and suicidal risk *Primary care companion to the Journal of clinical psychiatry*, 12(2).
77. Kornreich, C., & Neu, D. (2010). Nos structures mentales nous prédisposent-elles à la religion *Revue médicale de Bruxelles*, 31, 50-56.
78. Kornreich, C., & Neu, D. (2010). Religion and brain functioning (Part 1):: Is our mind designed for religion? *Revue médicale de Bruxelles*, 31, 55-60.
79. Neu, D., Kornreich, C., Montana Peral, X., Hoffmann, G., Sentissi El Drissi, O., & Verbanck, P. (2010). Cognitive impairment and altered vigilance in treatment-resistant depression *European psychiatry*, 25(1), 299.
80. Kornreich, C., & Neu, D. (2010, janvier). Religion and brain functioning (Part 1):: Is our mind designed for religion?: Are our mental structures designed for religion? *Revue médicale de Bruxelles*, 31(1), 50-56.

Abstract: Religions are seen everywhere in the world. Two main theories are competing to explain this phenomenon. The first one is based on the assumption that our cognitive structures are predisposing us to nurture religious beliefs. Religion would then be a by-product of mental functions useful for survival. Examples of these mental functions are children credulity, anthropomorphism and

teleology. The second one hypothesizes that religion is maintained through direct adaptation benefits occurring in cooperation exchanges. In particular, religion could function as an insurance mechanism given by the religious group. It is likely that both theories are complementary and useful to explain why religion is a universal phenomenon in the human species.

2009

81. Campanella, S., Petit, G., Maurage, P., Kornreich, C., Verbanck, P., & Noël, X. (2009). Chronic alcoholism: insights from neurophysiology. *Neurophysiologie clinique*, 39(4-5), 191-207. doi:10.1016/j.neucli.2009.08.002

Abstract: INTRODUCTION: Increasing knowledge of the anatomical structures and cellular processes underlying psychiatric disorders may help bridge the gap between clinical signs and basic physiological processes. Accordingly, considerable insight has been gained in recent years into a common psychiatric condition, i.e., chronic alcoholism. MATERIAL AND METHODS: We reviewed various physiological parameters that are altered in chronic alcoholic patients compared to healthy individuals--continuous electroencephalogram, oculomotor measures, cognitive event-related potentials and event-related oscillations--to identify links between these physiological parameters, altered cognitive processes and specific clinical symptoms. RESULTS: Alcoholic patients display: (1) high beta and theta power in the resting electroencephalogram, suggesting hyperarousal of their central nervous system; (2) abnormalities in smooth pursuit eye movements, in saccadic inhibition during antisaccade tasks, and in prepulse inhibition, suggesting disturbed attention modulation and abnormal patterns of prefrontal activation that may stem from the same prefrontal "inhibitory" cortical dysfunction; (3) decreased amplitude for cognitive event-related potentials situated along the continuum of information-processing, suggesting that alcoholism is associated with neurophysiological deficits at the level of the sensory cortex and not only disturbances involving associative cortices and limbic structures; and (4) decreased theta, gamma and delta oscillations, suggesting cognitive disinhibition at a functional level. DISCUSSION: The heterogeneity of alcoholic disorders in terms of symptomatology, course and outcome is the result of various pathophysiological processes that physiological parameters may help to define. These alterations may be related to precise cognitive processes that could be easily monitored neurophysiologically in order to create more homogeneous subgroups of alcoholic individuals.

https://dipot.ulb.ac.be/dspace/bitstream/2013/53403/1/Elsevier_28712.pdf

82. Kornreich, C., Desaive, P., & Dan, B. (2009). Delayed Onset Parkinsonism in Alcoholic Patient following ARDS: Alcoholism could be a risk factor *The Open Addiction Journal*, 2, 28-29.
83. Wallez, S., Dos Reis, P., Mary-Rabine, S., Vandriette, Y.-M., Verbanck, P., & Kornreich, C. (2009). Perception de la psychiatrie de liaison et des patients psychiatriques par les médecins somaticiens: de bonnes nouvelles ? *Acta psychiatrica Belgica*, 109, 49-57.
84. Campanella, S., Petit, G., Maurage, P., Kornreich, C., Verbanck, P., & Noël, X. (2009). Chronic alcoholism: insights from neurophysiology *Clinical neurophysiology*, 39(45), 191-207.
<https://dipot.ulb.ac.be/dspace/bitstream/2013/187548/1/ArticlePdfFinal.pdf>

2008

85. Noël, X., Saeremans, M., Kornreich, C., & Jaafari, N. (2008, septembre 01). Dissociative Tendencies and Alcohol Use Disorder *Current addiction reports*, 5(4), 517-527.
86. Maurage, P., Campanella, S., Philippot, P., de Timary, P., Constant, E., Gauthier, S., Micciché, M.-L., Kornreich, C., Hanak, C., Noël, X., & Verbanck, P. (2008,

avril). Alcoholism leads to early perceptive alterations, independently of comorbid depressed state: an ERP study. *Neurophysiologie clinique*, 38(2), 83-97. doi:10.1016/j.neucli.2008.02.001

Abstract: INTRODUCTION: Alcoholism is associated with a deficit in the processing of emotional facial expressions (EFE) and with a delayed P3b component, partially mediated by earlier perceptive deficits (P100, N170). Since alcohol dependence often occurs with depression, we aim at investigating whether classical event-related potentials (ERP) alterations observed in alcoholism are modulated or not by depression. METHODS: Four groups (controls; alcoholics; depressed; alcoholics-depressed) of 12 participants performed two different discrimination tasks, a gender and an emotional one. They had to decide as quickly as possible about the gender or the emotion displayed by facial stimuli during an ERP recording session (32 channels). Reaction times (RTs), P100, N100, N170 and P3b were recorded. RESULTS: At the behavioural level, control participants discriminated EFE (but not gender) more rapidly than the three other groups. At the ERP level, the differences observed on RTs for emotional task were neurophysiologically indexed by a delayed P3b component. This delay was associated with earlier ERP alterations (P100, N100, N170), but only in participants suffering from alcohol dependence, in association or not with depression. DISCUSSION: On the one hand, individuals with alcoholism, associated or not with a comorbid depression, were impaired in the processing of EFE. This deficit was neurophysiologically indexed by early perceptive (P100, N100, N170) and decisional (P3b) alterations. On the other hand, non-alcoholic patients with depression only exhibited P3b impairment. These results lead to potential implications concerning the usefulness of the ERP for the differential diagnosis in psychiatry, notably concerning the comorbidities in alcoholism.

https://dipot.ulb.ac.be/dspace/bitstream/2013/53398/1/Elsevier_28707.pdf

87. Kornreich, C., Szombat, M., Vandriette, Y.-M., & Dan, B. (2008). Association of chronic fatigue syndrome and acute psychotic episode: is it coincidental? *Primary care companion to the Journal of clinical psychiatry*, 10(5), 412.
<https://dipot.ulb.ac.be/dspace/bitstream/2013/67657/1/PMC2629064.pdf>
88. Kornreich, C., Szombat, M., Vandriette, Y.-M., & Dan, B. (2008). Chronic fatigue syndrome and acute psychotic episode: is it coincidental ? *Primary care companion to the Journal of clinical psychiatry*, 10, 412.
89. Khaldi, S., Kornreich, C., Choubani, Z., & Gourevitch, R. (2008). Antipsychotiques atypiques et syndrome malin des neuroleptiques: une brève revue de la littérature *L'Encéphale*, 34, 618-624. doi:10.1016/j.encep.2007.11.007

Abstract: Background: Neuroleptic malignant syndrome (NMS) is an uncommon, but potentially life threatening complication of neuroleptic drugs. In 1960, Delay et al. [Ann Med Psychol 118 (1960) 145-152] described the "syndrome akinétique hypertonique"(hypertonic akinetic syndrome) and its cardinal symptoms: hyperthermia, extrapyramidal symptoms, altered mental status and autonomic dysfunctions. The syndrome often develops after a sudden increase in dose of neuroleptic medication or in states of dehydration. The frequency of NMS with conventional neuroleptic drugs ranges from 0.02 to 3.3%. The pathophysiology of NMS is not clearly understood. It has been suggested that the potential to induce NMS of neuroleptics is parallel to the potency of dopamine blockade in the nigrostriatal tract, mesocortical pathway and hypothalamic nuclei. It is, however, intriguing that NMS may appear with atypical antipsychotics (AA) and especially clozapine (CLZ), which is mainly characterized by its low affinity to D1 and D2 receptors. Objective: The purpose of this study was to review cases of NMS induced by AA agents reported in the literature and to discuss the pathophysiology of this complication. Methods: Cases of NMS related to AA were collected by means of a MEDLINE literature search between January 1986 and June 2005. As key words we used: (NMS and AA), amisulpride (AMS), clozapine (CLZ), olanzapine (OLZ), risperidone

(RIS), quetiapine (QTP), ziprazidone (ZPS) and side effects. For the purpose of our review, all cases were critically examined against standard NMS diagnostic criteria according to DSM-IV. Cases involving a coprescription of classical neuroleptics were excluded. Results: Our search yielded 47 cases (eight women, 39 men) of NMS associated with AA meeting DSM-IV criteria. Patients' mean age was 37 years, primary patient diagnoses were schizophrenia (n = 26), schizoaffective disorder (n = 9), bipolar disorder (n = 3), mental retardation (n = 4) and other diagnoses (n = 5). Drugs involved were: CLZ (n = 12), OLZ (n = 18), OLZ and CLZ (n = 1), OLZ and RIS (n = 1), RIS (n = 11), RIS and CLZ (n = 2), QTP (n = 3) and ZPS (n = 1). No cases were reported with AMS. Twenty-nine of these 47 patients treated with AA received no other concomitant psychotropic medications; the remaining 18 patients received respectively, benzodiazepines (n = 5), Valproate (n = 5), lithium (n = 4) and antidepressants (n = 4). A lethal evolution occurred in two patients receiving in one case olanzapine, risperidone in the second, at a normal dose range. Conclusion: Our review indicates that atypical antipsychotics can cause NMS even when prescribed in monotherapy. The occurrence of NMS when prescribing AA and especially CLZ is, however, intriguing, given its low potency to block D2 receptors. This indicates that a low extrapyramidal syndrome-inducing potential does not prevent NMS and suggests the possible role of serotonergic and noradrénergic receptors in the pathophysiology of NMS. © 2008.

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https://dipot.ulb.ac.be/dspace/bitstream/2013/67811/5/Elsevier_44898.pdf

90. Ben Bassat, D., Dos Reis, P., Van Driette, Y., De Nutte, N., Corten, P., Delle-Vigne, D., Verbanck, P., & Kornreich, C. (2008). Attentes et motivations vis-à-vis de l'activité physique chez des patients dépressifs hospitalisés *Acta psychiatrica Belgica*, 108, 43-49.
91. Van Driette, Y., Corten, P., Dewell, P., From, L., Kornreich, C., & Verbanck, P. (2008). Stress au travail et harcèlement moral: une étude comparative des mécanismes adaptatifs et des conséquences psycho-sociales *Acta psychiatrica Belgica*, 108, 50-59.
92. Ben Bassat, D., Dos Reis, P., Van Driette, Y., De Nutte, N., Corten, P., Delle-Vigne, D., Verbanck, P., & Kornreich, C. (2008). Attentes et motivations vis-à-vis de l'activité physique dans une population de patients dépressifs hospitalisés *Acta psychiatrica Belgica*, 108(1), 43-49.

2007

93. Foisy, M.-L., Kornreich, C., Fobe, A., D'Hondt, L., Pelc, I., Hanak, C., Verbanck, P., & Philippot, P. (2007, mars). Impaired emotional facial expression recognition in alcohol dependence: do these deficits persist with midterm abstinence? *Alcoholism, clinical and experimental research*, 31(3), 404-410. doi:10.1111/j.1530-0277.2006.00321.x

Abstract: BACKGROUND: Emotional facial expression (EFE) decoding has been repetitively shown to be impaired in alcoholic inpatients. The present study aimed to replicate and extend previous findings on EFE recognition deficits in alcoholism. METHODS: Alcoholic and control participants' performances were compared on an EFE decoding task with a transversal and a longitudinal design. More specifically, 49 alcoholic individuals were recruited at a long-stay postdetoxification treatment center at the third or fourth week of their detoxification process. Twenty-two of them [abstinent alcoholic participants (AA)] were met at the end of their hospitalization process, 2 months later. The 27 remaining patients [dropping alcoholic participants(AD)] dropped out from treatment before the second meeting. A control group (C) of 22 participants was constituted, and assessed twice with the same average time as AA between the 2 assessments. The 3 groups were similar regarding age, sex, and education level. Participants were presented at both times with an EFE decoding test consisting of 16 photographs depicting EFE of happiness, anger, disgust, and sadness. RESULTS: The results corroborated previous findings highlighting more EFE decoding

deficits in alcoholic participants compared with control participants, with no improvement after 3 months of abstinence. Transversal analyses further evidenced more EFE decoding difficulties in AD than in AA compared with controls. CONCLUSIONS: EFE decoding deficits in alcoholism persist with midterm abstinence. Alcoholic patients who dropped from treatment had the worst EFE decoding performance at baseline. Emotional facial expression decoding deficit could have a prognostic value in alcohol dependence.

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94. Maurage, P., Philippot, P., Verbanck, P., Noël, X., Kornreich, C., Hanak, C., & Campanella, S. (2007, mars). Is the P300 deficit in alcoholism associated with early visual impairments (P100, N170)? An oddball paradigm. *Clinical neurophysiology*, 118(3), 633-644. doi:10.1016/j.clinph.2006.11.007

Abstract: OBJECTIVE: Studies exploring chronic alcoholism with event-related potentials (ERPs) have shown delayed latency and reduced amplitude of the P300, a long-lasting positive potential reflecting decisional processing. This P300 deficit in alcoholism is generally interpreted as a disturbance in central nervous system inhibition or in memory/attention. The present study aimed at identifying if this electrophysiological deficit is already present on earlier components, and advances a new hypothesis concerning the interpretation of the P300 alteration. METHODS: Patients suffering from alcoholism and matched healthy controls had to detect, in an oddball paradigm, emotional faces among a succession of neutral faces. Behavioral performance and ERP data (recorded from 32 electrodes) were analyzed. RESULTS: In line with previous studies, data showed that alcoholism led to a P300 deficit. Moreover, we observed for the first time that this deficit begins at earlier visual (P100) and face-processing (N170) stages, and we found high positive correlations between P100, N170 and P300 for amplitude and latency values, suggesting cumulative deficits on the cognitive continuum. CONCLUSIONS: We suggest that the P300 deficit observed in chronic alcoholism could be linked to earlier visuo-spatial deficits rather than being an impairment of the specific processes linked to the P300. SIGNIFICANCE: These results call for reconsidering the interpretation of P300 impairments at a fundamental and clinical level, and shows that earlier ERP components must be taken into account in future studies.

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95. Foisy, M.-L., Kornreich, C., Petiau, C., Perez, A., Hanak, C., Verbanck, P., Pelc, I., & Pelckmans, P. (2007, février). Impaired emotional facial expression recognition in alcoholics: are these deficits specific to emotional cues? *Psychiatry research*, 150(1), 33-41. doi:10.1016/j.psychres.2005.12.008

Abstract: Previous studies have repeatedly linked alcoholism to impairment in emotional facial expression decoding. The present study aimed at extending previous findings while controlling for exposure times of stimuli. Further, a control task was added on the decoding of non-emotional facial features. Twenty-five alcoholic participants were compared to 26 control participants matched for age, sex and educational level. Participants performed two computer tasks consisting of presentation of photographs of faces for either 250 or 1000 ms. The first task required "yes" or "no" responses as rapidly as possible to questions regarding non-emotional features of the face (gender, age range and cultural identity). The second task involved a different set of photographs implicating emotional facial expression decoding, with the same exposure times. Again, rapid "yes" or "no" responses to trials combining 32 emotional facial expressions by eight emotional labels (happiness, sadness, fear, anger, disgust, surprise, shame, and contempt) were required from participants. Reaction times were recorded for both tasks. Alcoholic and control participants showed similar results in both tasks in terms of response accuracy. Yet, in the emotional facial expression task, alcoholic participants' responses matched more negative emotional labels, especially sadness. Further, alcoholics were slower than control participants specifically to answer emotional questions on emotional facial expression. No differences appeared on reaction times in the control task.

Contrary to expectations, no interaction of stimulus time exposure and group was observed. Overall, these findings replicate and extend previous results on emotional facial expression decoding ability: Alcoholics are specifically impaired on emotional non-verbal behavior information processing: They are slower to correctly identify an emotion.

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2006

96. Khaldi, S., Dan, B., Basiaux, P., De Nutte, N., Kornreich, C., & Gorman, J. M. (2006, novembre). Manic episode precipitated by withdrawal of hormone replacement therapy in severe hypothyroidism. *Journal of psychiatric practice*, 12(6), 409-410.
97. Pelc, K., Kornreich, C., Foisy, M.-L., & Dan, B. (2006, août). Recognition of emotional facial expressions in attention-deficit hyperactivity disorder. *Pediatric neurology*, 35(2), 93-97. doi:10.1016/j.pediatrneurol.2006.01.014

Abstract: In ADHD, impaired interpersonal relationships have been documented. They have been hypothesized to be secondary to impairment of receptive nonverbal language. Recognition of emotional facial expressions is an important aspect of receptive nonverbal language, and it has been demonstrated to be central to organization of emotional and social behavior. This study investigated the identification of facial expression of four emotions (joy, anger, disgust, and sadness) in a group of 30 children aged 7-12 years who met the DSM-IV criteria for ADHD disorder of the predominantly hyperactive-impulsive type and have no comorbid mental retardation, specific learning difficulties, developmental coordination disorder, pervasive developmental disorders, conduct disorder, bipolar disorder, or substance abuse, and in 30 matched unimpaired control children. The test used includes 16 validated photographs depicting these emotions in varying intensities constructed by morphing. Children with ADHD exhibited a general deficit in decoding emotional facial expressions, with specific deficit in identifying anger and sadness. Self-rating of the task difficulty revealed lack of awareness of decoding errors in the ADHD group as compared with control subjects. Within the ADHD group, there was a significant correlation between interpersonal problems and emotional facial expression decoding impairment, which was more marked for anger expressions. These results suggest suboptimal nonverbal decoding abilities in ADHD that may have important implications for therapy.

https://dipot.ulb.ac.be/dspace/bitstream/2013/67644/1/Elsevier_44712.pdf

98. Kornreich, C. (2006). Panique, somatisation et activité physique *Revue médicale de Bruxelles*, 27, 78-82.
99. Khaldi, S., & Kornreich, C. (2006). Le syndrome catatonique *Revue médicale de Bruxelles*, 27, 489-492.
100. Kornreich, C., & Philippot, P. (2006). Nonverbal communication in neuropsychiatric disorders: influence on interpersonal difficulties *Psychologica belgica*, 46, 79-98.
101. Kornreich, C., & Philippot, P. (2006). Dysfunctions of facial emotion recognition in adult neuropsychiatric disorders: Influence on interpersonal difficulties *Psychologica belgica*, 46(1-2), 79-98.

Abstract: Emotional facial expression (EFE) accurate recognition is needed to ensure good interpersonal communication and relationship. Impaired recognition of emotional facial expressions has been described in many neuropsychiatric disorders. Neuronal circuits dysfunctions and/or inappropriate learning processes could explain these recognition difficulties. EFE decoding disturbances in adult neuropsychiatric disorders are reviewed. For some of these disorders, a

correlation has been evidenced between poor recognition of EFE and interpersonal difficulties. Treatment of EFE dysfunctions seems possible but it is not yet known if such a treatment could improve the interpersonal life of patients with neuropsychiatric disorders.

2005

102. Foisy, M.-L., Philippot, P., Verbanck, P., Pelc, I., van der Straten, G., & Kornreich, C. (2005, septembre). Emotional facial expression decoding impairment in persons dependent on multiple substances: impact of a history of alcohol dependence. *Journal of studies on alcohol*, 66(5), 673-681.

Abstract: OBJECTIVE: The decoding of emotional facial expressions is impaired in recovering alcoholics and less severely so in opiate-dependent persons without alcohol dependence antecedents. This study addressed two complementary questions: (1) How do these decoding deficits change with long-term abstinence during an institutionalized therapeutic program? and (2) Do alcohol-dependent antecedents constitute a factor impairing a potential recovery? METHOD: Sixty-five participants (54 men and 11 women) were recruited at a long-stay postdetoxification treatment center. They were assigned to one of four groups, depending on (1) whether or not they met alcohol dependence criteria in the past and (2) whether they were at therapeutic Stage 1 or Stage 2. Stage 1 was defined as being in the first 2 months of the therapeutic program, and Stage 2 was defined as being in the long-term therapeutic community (i.e., from 2 to 10 months of a therapeutic program). Participants were given an emotional facial-expression decoding test consisting of 16 photographs portraying happiness, anger, disgust and sadness. Participants were asked to rate the estimated intensity level of each photograph on eight scales labeled as happiness, sadness, fear, anger, disgust, surprise, shame and contempt--all presented successively. A complementary scale assessed the self-estimated difficulty in performing the task. RESULTS: Results show a greater deficit in individuals with substance dependence with past alcoholic dependence, compared with former substance-dependent persons who had never met the alcohol dependence criteria according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. However, there was no effect of long-term abstinence on emotion decoding abilities whatever their past dependence. CONCLUSIONS: Substance dependence is associated with dysfunctions in emotional facial expression decoding processing, with alcohol dependence being linked with more impairments and no improvement after months of abstinence.

103. Kornreich, C., & De Nutte, N. (2005). L'impact d'une activité physique régulière sur la santé physique et mentale: comment motiver le patient ? *Revue médicale de Bruxelles*, 26, 89-97.

Abstract: A sedentary lifestyle is associated with the development of numerous diseases and seems to increase in western societies. The influence of a regular physical activity in the prevention of cardiovascular diseases, diabetes, obesity, cancers, anxious and depressive disturbances is summarized. Potential mechanisms of its positive influence are discussed and prescription recommendations are made.

2004

104. Kornreich, C. (2004). Le Trouble obsessionnel compulsif *Revue médicale de Bruxelles*, 26, 321-325.

2003

105. Kornreich, C., Foisy, M.-L., Philippot, P., Dan, B., Tecco, J. M., Noël, X., Hess, U., Pelc, I., & Verbanck, P. (2003, août). Impaired emotional facial expression recognition in alcoholics, opiate dependence subjects, methadone maintained subjects and mixed

alcohol-opiate antecedents subjects compared with normal controls. *Psychiatry research*, 119(3), 251-260.

Abstract: The present study aims to explore whether an impairment in emotional facial expressions (EFE) decoding is specific to alcoholism compared with opiate dependence. An EFE decoding test consisting of 16 photographs of EFE portraying happiness, anger, sadness and disgust was administered to five different groups of 30 subjects each: recently detoxified alcoholics (RA); opiate addicts under methadone maintenance treatment (OM); detoxified opiate addicts (OA); detoxified subjects with both alcohol and opiate dependence antecedents (DAO); and normal controls (NC). Repeated measures analysis of variance using a multivariate approach was conducted on EFE decoding accuracy scores with group as the between-subjects factor. Accuracy scores were significantly lower in RA and DAO than in OM and OA, which had significantly lower scores than NC. Low accuracy scores in RA and DAO confirm previous results indicating that alcoholism is associated with impaired EFE recognition. Results in OM and OA indicate that opiate dependence is also associated with an impaired EFE decoding but less than in alcoholism. Alcohol and opiate chronic consumption could both exercise a deleterious effect on EFE-decoding brain function, alcohol having the most severe impact. Alternatively, EFE-decoding problems could be present before the development of alcohol and opiate dependence, with an additional effect of chronic alcohol consumption on EFE decoding. In this context, EFE-decoding impairment could reflect a more general emotional intelligence deficit in addicted populations.

[https://dipot.ulb.ac.be/dspace/bitstream/2013/53379/1/Recognition of Emotional Facial Expressions.pdf](https://dipot.ulb.ac.be/dspace/bitstream/2013/53379/1/Recognition%20of%20Emotional%20Facial%20Expressions.pdf)

106. Khaldi, S., Kornreich, C., Dan, B., & Pelc, I. (2003, février). Usefulness of olanzapine in refractory panic attacks. *Journal of clinical psychopharmacology*, 23(1), 100-101.

2002

107. Mewasingh, L. D., Kornreich, C., Christiaens, F., Christophe, C., & Dan, B. (2002, février). Pediatric phantom vision (Charles Bonnet) syndrome. *Pediatric neurology*, 26(2), 143-145. doi:10.1016/S0887-8994(01)00358-7

Abstract: Visual symptomatology in childhood often presents diagnostic difficulties. Recurrent paroxysmal visual complaints, although typically associated with migraine, may also signal other disorders. We describe a 9-year-old partially sighted male with paroxysmal zoopsias resulting from Charles Bonnet syndrome. This condition is characterized by paroxysmal visual hallucinations occurring in patients with chronic visual impairment, akin to the phantom-limb phenomenon. This pediatric case is the fourth report of this condition. We have reviewed the other cases.

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[https://dipot.ulb.ac.be/dspace/bitstream/2013/67627/1/Pediatricphantomvision CharlesBonnet syndrome.pdf](https://dipot.ulb.ac.be/dspace/bitstream/2013/67627/1/Pediatricphantomvision_CharlesBonnet_syndrome.pdf)

108. Kornreich, C., Philippot, P., Foisy, M.-L., Blairy, S., Raynaud, E., Dan, B., Hess, U., Noël, X., Pelc, I., & Verbanck, P. (2002). Impaired emotional facial expression recognition is associated with interpersonal problems in alcoholism. *Alcohol and alcoholism*, 37(4), 394-400.

Abstract: AIMS: Emotional facial expression (EFE) recognition has been shown to be impaired in abstinent alcoholics. The present study investigated the relationship between EFE recognition impairments and interpersonal difficulties in recently detoxified alcoholics (RA). METHODS: Thirty recently detoxified alcoholics were compared to 30 normal controls (NC) matched for age, sex and educational level on an EFE decoding test. This test involves 16 photographs depicting EFE of happiness, anger, disgust and sadness. Subjects were asked to fill in the Inventory of Interpersonal Problems evaluating six dimensions of interpersonal problems (assertiveness, submissiveness,

intimacy, reliability, control and sociability). RESULTS: RA had EFE recognition deficits and more interpersonal problems, compared to NC. Reported interpersonal difficulties were correlated with EFE decoding problems. CONCLUSIONS: Interpersonal difficulties serve as a mediator between EFE accuracy problems and alcoholism. Impaired EFE recognition could have a role in the interpersonal difficulties encountered by RA and may therefore constitute a relapse factor.

109. Sferrazza, R., Philippot, P., Kornreich, C., Noël, X., Pelc, I., & Verbanck, P. (2002). La communication émotionnelle dans les couples alcooliques. *Alcoolologie et addictologie*, 24, 117-125.

2001

110. Noël, X., Van der Linden, M., Schmidt, N., Sferrazza, R., Hanak, C., Le Bon, O., De Mol, J., Kornreich, C., Pelc, I., & Verbanck, P. (2001, décembre). Supervisory attentional system in nonamnesic alcoholic men. *Archives of general psychiatry*, 58(12), 1152-1158.

Abstract: BACKGROUND: Many studies have shown that recently detoxified alcoholic persons perform poorly on tasks thought to be sensitive to frontal lobe damage, supporting the hypothesis that the frontal lobes are highly vulnerable to chronic alcohol consumption. However, it appeared that most of the executive tasks used in these studies also involved nonexecutive components, and these tasks had been shown to be impaired as a result of nonfrontal lobe lesions. In this study, we examined further the "frontal lobe vulnerability" hypothesis using executive tasks, proved to be associated with frontal lobe functioning, that allowed us to distinguish the relative importance of executive and nonexecutive processes. METHOD: Thirty recently detoxified asymptomatic male alcoholic inpatients and 30 control subjects were tested for planning, inhibition, rule detection, and coordination of dual task, as well as the speed of processing and nonexecutive functions (such as short-term memory storage). RESULTS: Alcoholics performed worse than controls in almost all tasks assessing executive functions. However, they were not slower than the controls and showed normal results for nonexecutive functions. CONCLUSIONS: Chronic alcohol consumption seems to be associated with severe executive function deficits, which are still present after a protracted period of alcohol abstinence. These data support the idea that the cognitive deficits in recently detoxified sober alcoholic subjects are due, at least partly, to frontal lobe dysfunctioning.

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111. Kornreich, C., Blairy, S., Philippot, P., Hess, U., Noël, X., Streel, E., Le Bon, O., Dan, B., Pelc, I., & Verbanck, P. (2001, juillet). Deficits in recognition of emotional facial expression are still present in alcoholics after mid- to long-term abstinence. *Journal of studies on alcohol*, 62(4), 533-542.

Abstract: OBJECTIVE: Emotional facial expression (EFE) decoding skills play a key role in interpersonal relationships. Decoding errors have been described in several pathological conditions, including alcoholism. The aim of this study was to investigate whether EFE decoding skill deficits persist after abstention from alcohol of at least 2 months. METHOD: Alcoholic patients abstinent for at least 2 months (n = 25) were compared with 25 recently detoxified patients and with 25 normal controls matched for age, gender and educational level. Subjects were presented with 40 photographs of facial expressions portraying happiness, anger, sadness, disgust and fear. Each emotion was displayed with neutral, mild, moderate and strong emotional intensity. Each facial expression was judged successively on eight scales labeled happiness, sadness, fear, anger, disgust, surprise, shame and contempt. For each scale, subjects rated the estimated intensity level. A complementary scale assessed the self-estimated difficulty in performing the task. RESULTS: Recently detoxified alcoholics were significantly less accurate than controls, making more EFE labeling errors and overestimating the intensity of the portrayed emotions. Deficits in decoding accuracy for anger and disgust were present in mid- to long-term abstinent patients;

intensity overestimation was present in the former and absent in the latter. **CONCLUSIONS:** Deficits in decoding accuracy for anger and disgust, and to a lesser degree sadness, persist with an abstinence of 2 months and beyond. Right frontotemporal regions and cingulate could be implicated. These deficits may contribute to the social skills deficits frequently encountered in alcoholic patients.

112. Kornreich, C., Blairy, S., Philippot, P., Dan, B., Foisy, M.-L., Hess, U., Le Bon, O., Pelc, I., & Verbanck, P. (2001, juillet). Impaired emotional facial expression recognition in alcoholism compared with obsessive-compulsive disorder and normal controls *Psychiatry research*, 102(3), 235-248. doi:10.1016/S0165-1781(01)00261-X

Abstract: Emotional facial expression (EFE) decoding skills have been shown to be impaired in recovering alcoholics (RA). The aim of the present study is to replicate these results and to explore whether these abnormalities are specific to alcoholism using two control groups: non-patient controls (NC) and patients with obsessive-compulsive disorder (OC). Twenty-two alcoholic patients at the end of their detoxification process (RA) were compared to 22 OC and 22 NC matched for age, sex and education level. They were presented with 12 photographs of facial expressions portraying different emotions: happiness; anger; and fear. Each emotion was displayed with mild (30%) and moderate (70%) intensity levels. Each EFE was judged on 8 scales labeled happiness, sadness, fear, anger, disgust, surprise, shame and contempt. For each scale, subjects rated the estimated intensity level. RA were less accurate in EFE decoding than OC and NC, particularly for anger and happiness expressions. RA overestimated the emotional intensity for mild intensity level expressions compared with both OC and NC while no significant differences emerged for moderate intensity level expressions. Deficits in EFE decoding skills seem to be specific to RA when compared with OC. Comparison with other psychopathological groups is still needed. Possible consequences of EFE decoding deficits in RA include distorted interpersonal relationships. © 2001 Elsevier Science Ireland Ltd.

https://dipot.ulb.ac.be/dspace/bitstream/2013/92898/1/Elsevier_71567.pdf

113. Noël, X., Schmidt, N., Van der Linden, M., Sferrazza, R., Hanak, C., De Mol, J., Kornreich, C., Pelc, I., & Verbanck, P. (2001). An atypical neuropsychological profile of a Korsakoff syndrome patient throughout the follow-up. *European neurology*, 46(3), 140-147.

Abstract: The basis of amnesia in alcoholic Wernicke-Korsakoff syndrome (WKS) has been generally associated with diencephalic lesions and more specifically with lesions of the anterior thalamic nuclei. These brain structures are considered to be involved in encoding/consolidation processes of episodic memory. However, frontal lobe damage responsible for executive function deficits has also been documented. The present report details the nature and extent of amnesia in an alcoholic patients with WKS and which appears to be mainly due to frontal lobe (executive) deficits.

114. Noël, X., Paternot, J., Van der Linden, M., Sferrazza, R., Verhas, M., Hanak, C., Kornreich, C., Martiny, P., De Mol, J., Pelc, I., & Verbanck, P. (2001). Correlation between inhibition, working memory and delimited frontal area blood flow measure by 99mTc-Bicisate SPECT in alcohol-dependent patients. *Alcohol and alcoholism*, 36(6), 556-563.

Abstract: Recently detoxified non-neurological alcoholic patients appear to be impaired in cognitive tasks measuring inhibitory processes as well as working memory (involving storage and manipulation of information). The aim of this study was to investigate in alcoholic participants the relationship between these two cognitive functions and regional cerebral blood flow (rCBF) studied at rest in regions of interest selected on the basis of recent PET studies which explored inhibitory and working memory in normal subjects. Twenty non-neurological alcoholic patients and 20 normal volunteers were selected for a neuropsychological exploration, including assessment of inhibition processes (by means of the Hayling test) and working memory (by means of the Alpha-span task).

rCBF of alcoholics was also evaluated with a semi-quantitative method using a ^{99m}Tc -Bicisate single photon emission computed tomography (SPECT) procedure. Alcoholic patients performed worse than controls in the alphabetical condition of the Alpha-span task (involving manipulation and storage of information), and on the Hayling test. Significant correlation emerged between inhibition performance and both the bilateral inferior (left BA 47, $r = -0.40$; right BA 47, $r = -0.599$) and median frontal gyrus (left BA 10, $r = -0.55$; right BA 10, $r = -0.59$), but not with the region of reference (occipital/cerebellum, $r = -0.13$). Coordination of storage and manipulation was correlated with bilateral median frontal (left BA 10/46, $r = -0.50$; right BA 10/46, $r = -0.45$), but not with bilateral parietal area (left BA 7, $r = -0.12$, right BA 7, $r = -0.18$). These results suggest a relationship between inhibition and working memory deficits in alcoholic patients, and regional rCBF measured in frontal areas. Clinical implications of these data related to alcohol relapse are discussed.

115. Kornreich, C., Blairy, S., Philippot, P., Dan, B., Foisy, M.-L., Le Bon, O., Pelc, I., & Verbanck, P. (2001). Emotional facial expression recognition compared in two pathological conditions: obsessive compulsive disorder and alcoholism *Psychiatry research*, 102, 235-248.
116. Duchateau, I., Kornreich, C., Verbanck, P., & Pelc, I. (2001). Trouble obsessionnel compulsif de type religieux: A la limite de la psychose *Acta psychiatrica Belgica*, 101, 249-262.
117. Coustry, S., Kornreich, C., Gillon, D., Pelc, I., & Verbanck, P. (2001). Culture et syndrome de stress post-traumatique: Quelle influence ? *Acta psychiatrica Belgica*, 101, 277-290.
118. Kornreich, C. (2001). Deficits in decoding accuracy for anger, disgust and sadness persist in alcoholics after an abstinence of more than two months *Alcohol research & health*, 6.
119. Kornreich, C. (2001). Possible consequences of deficits in decoding emotional facial expression in alcoholics include distorted interpersonal relationships *Alcohol research & health*, 6, 266.
120. Kornreich, C., Foisy, M.-L., Blairy, S., Philippot, P., Raynaud, E., Pelc, I., & Verbanck, P. (2001). Does a positive history of alcoholism have an impact on nonverbal decoding impairment in alcoholics? *Alcohol and alcoholism*, 36, 462.
121. Noël, X., Paternot, J., Van der Linden, M., Sferrazza, R., Verhas, M., Hanak, C., Kornreich, C., Martin, P., De Mol, J., Pelc, I., & Verbanck, P. (2001). Correlation between inhibition, working memory and delimited frontal area blood flow measured by ^{99m}Tc -Bicisate SPECT in alcohol-dependent patients *Alcohol and alcoholism*, 36(6), 556-563.

2000

122. Dan, B., & Kornreich, C. (2000, septembre). Talmudic, Koranic and other classic reports of stalking. *British journal of psychiatry*, 177, 282.
123. Kornreich, C., Dan, B., Verbanck, P., & Pelc, I. (2000, juin). Treating Charles Bonnet syndrome: understanding inconsistency. *Journal of clinical psychopharmacology*, 20(3), 396.

124. Kornreich, C., Fossion, P., Hoffmann, G., L'Hermite Balériaux, M., & Pelc, I. (2000). Treatment of Kleine-Levin Syndrome: Melatonin on the starting block *The Journal of clinical psychiatry*, 61, 215.
125. Kornreich, C., Dan, B., Verbanck, P., Fontaine, E., & Pelc, I. (2000). Bulimia nervosa and compulsive water drinking: divergent responses to fluoxetine *Review*, 2, 2-3.
126. Kornreich, C., Philippart, P., Blairy, S., De Mol, J., & Pelc, I. (2000). Reconnaissance des expressions faciales émotionnelles chez les patients alcooliques *Annales de psychiatrie*, 15, 23-28.
127. Azarbaidjani-Do, M., Kornreich, C., Willems, D., Karmali, R., Hooghe, L., Pelc, I., & Verbanck, P. (2000). Calcium, Psychose et Psychiatrie *Acta psychiatrica Belgica*, 100, 316-328.
128. De Mol, J., Kornreich, C., & Pelc, I. (2000). Altération des émotions et des motivations dans l'hydrocéphalie à pression normale *Annales de psychiatrie*, 15(1), 29-34.

Abstract: Normal pressure hydrocephalus consists in a clinical presentation of a gait disturbance, incontinence and dementia. Sixty three patients (aged 17 to 82) with diagnosis confirmed by tomodensitometry and isotope cistemography underwent a pre and postoperation neuropsychological evaluation. Behavioral mood and cognitive dysfunction were demonstrated. In most cases, mental deterioration was typical of a frontal syndrome (attention impairment: 98%; loss of memory: 97%; writing difficulties: 90%; dyscalculia 84%; visuoconstructive apraxia: 79%; bradypsychy: 78%; apragmatism: 63%; anosognosia: 52%; alexia: 52%; speech disturbances: 41%, emotional indifference: 33%). After cerebrospinal fluid shunting, clinical improvement was observed in 33 patients (52%). Apart from a reduction in ventricular size, we found a regression of several behavioral, mood and cognitive dysfunctions. The main neuropsychological improvements were referred to functions related to communication, spontaneous activity, initiatives and planning. Even when ventricular enlargement may involve an underlying general brain damage, our results showed a dysfunction in the frontal area where the above mentioned neurobehavioral dysfunctions are mainly localized. Moreover, hypofrontality seems to be the expression of a dysfunction in the cortico-subcortical neuronal pathways © 2000 Éditions scientifiques et médicales Elsevier SAS.

1999

129. Philippot, P., Kornreich, C., Blairy, S., Baert, I., Den Dulk, A., Le Bon, O., Streel, E., Hess, U., Pelc, I., & Verbanck, P. (1999, juin). Alcoholics' deficits in the decoding of emotional facial expression *Alcoholism, clinical and experimental research*, 23(6), 1031-1038. doi:10.1111/j.1530-0277.1999.tb04221.x

Abstract: The present study investigated emotional facial expression decoding in alcoholics. Twenty-five alcoholic patients at the end of the detoxification process were compared with 25 volunteers matched for age, sex, and education. They were presented with facial expressions of neutral, mild, moderate, or strong emotional intensity. Results indicate that alcoholics overestimate the intensity of emotional expressions and make more errors in their decoding with a special bias for anger and contempt. Moreover, this decoding deficit is not perceived by the alcoholic patients. A general model is proposed that links visuospatial deficits, abnormal processing of social information, interpersonal stress, and alcohol abuse.
<https://dipot.ulb.ac.be/dspace/bitstream/2013/58944/3/58944.pdf>

130. Broothaerts, J.-P., Fryns, J. P., Kornreich, C., & Pelc, I. (1999). Assuétudes: motivation au changement et prise en charge semi-ambulatoire *Revue francophone de clinique comportementale et cognitive*, 3(4), 25-33.
131. Kornreich, C., Blairy, S., Philippot, P., Saye, I., Noël, X., Le Bon, O., Baert, I., Pelc, I., & Verbanck, P. (1999). Deficits in emotional facial expression recognition are still present after long term abstinence in alcoholic patients *Alcohol and alcoholism*, 34, 481.

1998

132. Kornreich, C., Dan, B., Verbanck, P., Fontaine, E., & Pelc, I. (1998, février). Divergent responses to fluoxetine from two compulsive, food-related conditions: bulimia nervosa and compulsive water drinking. *Biological psychiatry*, 43(4), 310-311. doi:10.1016/S0006-3223(97)00244-8

Abstract: BACKGROUND: The association of compulsive water drinking with bulimia nervosa is rarely encountered. Nevertheless similar behavior patterns could involve a common pathophysiological mechanism. METHODS: A case report with the association of those two disorders is described. Treatment with fluoxetine was introduced to alleviate the compulsive aspects of those disorders. RESULTS: Fluoxetine had a positive effect on bulimia nervosa but none on compulsive water drinking. CONCLUSIONS: The different response to pharmacologic treatment could mean that bulimia nervosa and compulsive water drinking are based on different physiological mechanisms.

https://dipot.ulb.ac.be/dspace/bitstream/2013/58946/1/Elsevier_35131.pdf

133. Kornreich, C., Philippot, P., Verpoorten, C., Dan, B., Baert, I., Le Bon, O., Verbanck, P., & Pelc, I. (1998). Alcoholism and emotional reactivity: more heterogeneous film-induced emotional response in newly detoxified alcoholics compared to controls--a preliminary study. *Addictive behaviors*, 23(3), 413-418.

Abstract: Alcoholics are thought to be characterized by irregular emotional responses, having trouble reaching an optimal level of emotional arousal. They therefore may use alcohol to restore emotional homeostasis. This study investigated whether recently detoxified alcoholics show different emotional responses as compared to controls. Film excerpts were used to induce emotions in 14 newly detoxified alcoholics (9 men, 5 women) and matched controls in a standardized laboratory setting. Subjective emotional (questionnaires) and physiological measures were employed. Depression and cognitive deterioration were controlled. Based on subjective ratings, alcoholics displayed greater variability of emotion; they displayed also fewer or no physiological arousal changes. Subjective emotional responses were exceedingly high or low. These differences were not accounted for by depression or cognitive deterioration. We hypothesize that alcohol could be used to restore an optimal level of emotional arousal. This homeostatic function of alcohol is yet to be clearly assessed.

134. Kornreich, C. (1998). Les douleurs thoraciques atypiques: A propos du trouble panique *Revue Médicale de Bruxelles* *Revue médicale de Bruxelles*, 19, 508-510.

1997

135. Le Bon, O., Verbanck, P., Hoffmann, G., Murphy, J. R., Staner, L., De Groote, D., Mampuzza Ma Miezi, S., Den Dulk, A., Vacher, C., Kornreich, C., & Pelc, I. (1997, janvier). Sleep in detoxified alcoholics: impairment of most standard sleep parameters and increased risk for sleep apnea, but not for myoclonias--a controlled study. *Journal of studies on alcohol*, 58(1), 30-36.

Abstract: OBJECTIVE: To assess recently alcohol-abstinent chronic alcoholic patients for selected parameters indicative of sleep quality. METHOD: Patients (n = 24, 14 male), abstinent 3-6 weeks, and healthy controls (n = 20) were admitted to a clinical sleep unit. Measurements included sleep respiratory events and periodic limb movements, using strict methodology. RESULTS: Clear signs of sleep deterioration and a high prevalence of apneic/hypopneic episodes were observed. Apneas were found at the same frequency for men and women; this has not been described before. No periodic limb movement was found. CONCLUSIONS: Considering the high degree of morbidity and mortality observed in sleep apneic syndrome, systematic screening for sleep apneas is recommended for alcoholics seeking help.

1996

136. Kornreich, C., Noël, X., Fontaine, E., Minner, P., & Pelc, I. (1996). Les Théories Cognitivo-Comportementales de l'Addiction *Dépendances*, 8(2), 5-10.

1995

137. Fouqueray, B., Boutard, V., Kornreich, C., Kornreich, A., Marchant, A., Perez, J. C., Goldman, M., & Baud, L. (1995, juillet). Mesangial cell-derived interleukin-10 modulates mesangial cell response to lipopolysaccharide. *The American journal of pathology*, 147(1), 176-182.

Abstract: Interleukin (IL)-10 is a novel cytokine produced by a variety of cells, including monocytes/macrophages, upon exposure to lipopolysaccharide (LPS). Recent observations indicate that, in turn, IL-10 exerts suppressive effects on macrophage response to LPS. Because mesangial cells are also a target for LPS, we have examined the potential role of IL-10 in the regulation of mesangial cell response to LPS. To this aim, we have studied the synthesis and the autocrine/paracrine function of IL-10 in cultured mouse mesangial cells. IL-10 mRNA expression and IL-10 protein secretion were determined by a reverse transcription polymerase chain reaction technique and a specific enzyme-linked immunosorbent assay, respectively. No IL-10 mRNA expression was detectable in unactivated cells. LPS induced IL-10 mRNA expression in a dose-dependent fashion (1 to 100 micrograms/ml). In addition, LPS induced IL-10 protein release that was both dose dependent (1 to 100 micrograms/ml) and time dependent (24 to 72 hours). We have also studied the effect of IL-10 on the production of inflammatory mediators by LPS-activated mouse mesangial cells. Whereas recombinant IL-10 inhibited the generation of tumor necrosis factor-alpha (TNF-alpha) and IL-1 beta by 90 and 60%, respectively, it did not affect the formation of nitric oxide-derived nitrite (NO₂-) and nitrate (NO₃-). As shown by the use of anti-IL-10 monoclonal antibody, endogenously produced IL-10 affected the generation of TNF-alpha but neither that of IL-1 beta nor that of NO₂- and NO₃-. Finally, we have examined whether conditions known to also reduce the generation of TNF-alpha modified the expression of IL-10. Of all the conditions tested, only the addition of desferrioxamine and transforming growth factor-beta were found to increase IL-10 release. Together, these data demonstrate that mesangial cell-derived IL-10 has important regulatory effects on the inflammatory response of these cells to LPS because of its capacity to blunt TNF-alpha generation. <https://dipot.ulb.ac.be/dspace/bitstream/2013/56921/1/PMC1869879.pdf>

138. Kornreich, C., Den Dulk, A., Verbanck, P., & Pelc, I. (1995, juillet). Fluoxetine treatment of compulsive masturbation in a schizophrenic patient. *The Journal of clinical psychiatry*, 56(7), 334.
139. Kornreich, C., Phillipot, P., Verpoorten, C., Moran, G., Baert, I., Le Bon, O., Verbanck, P., & Pelc, I. (1995). Alcoholism and emotional reactivity *Alcohol and alcoholism*, 30, 544.

140. Le Bon, O., Lion, K., Verbanck, P., & Kornreich, C. (1995). Fluparoxan in male erectile disorder: A case report *Journal of psychopharmacology*, 9(1), 67-68. doi:10.1177/026988119500900111
141. Mampuza Ma Miezi, S., Verbanck, P., Verhas, M., Martin, P., Paternot, J., Le Bon, O., Kornreich, C., Den Bulk, A., & Pelc, I. (1995). Cerebral blood flow in just detoxified alcohol dependent patients. A 99 m Tc-HMPAO-SPECT study. *Acta neurologica belgica*, 95(3), 164-169.

Abstract: Chronic alcohol abuse is responsible for several organic brain disorders. However, even the most characteristic of them are largely underdiagnosed by routine procedures. Therefore, there is need for sensitive, noninvasive and low-cost diagnostic procedures. 99m-Tc-HMPAO-SPECT could be an interesting candidate in this indication, because it estimates the distribution of the cerebral blood flow and the metabolic activity of the brain with a good resolution. We used this technique in 17 healthy volunteers and in a sample of 50 patients dependent on alcohol, without other major physical or mental disorder. SPECT was performed during the attendance of these patients in an inpatient detoxification program. We observed abnormal SPECT in 34 patients, but only in 2 volunteers ($p < 0.001$). The main abnormality was heterogeneity of the distribution of the tracer. SPECT abnormalities appear to be due not to withdrawal syndrome, nor to medication. On the contrary, they are correlated with stigmata of heavy alcoholism. Furthermore, a genetic vulnerability to alcohol was suspected because SPECT abnormalities are more frequent in patients with an history of drinking problems in their relatives.

1994

142. Le Bon, O., Hoffman, G., Verbanck, P., Mampuza Ma Miezi, S., De Groote, D., Den Dulk, A., Kornreich, C., & Pelc, I. (1994, août). High apnea/hypopnea index in weaned severe alcoholic patients *Journal of sleep research*, 3(Supplément 1), 283, 142. doi:10.1111/j.1365-2869.1994.tb00140.x
<https://dipot.ulb.ac.be/dspace/bitstream/2013/68055/3/68055.pdf>

1993

143. Verbanck, P., Kornreich, C., Le Bon, O., & Pelc, I. (1993, mars). Approche pharmacologique du traitement des problèmes de boisson. *Acta psychiatrica Belgica*, 93(2), 73-82.
144. Verbanck, P., Kornreich, C., Le Bon, O., & Pelc, I. (1993). Approche pharmacologique des problèmes de boisson *Acta psychiatrica Belgica*, 93, 73-82.
145. Mampuza Ma Miezi, S., Verbanck, P., Verhas, M., Martin, P., Paternot, J., Den Dulk, A., Le Bon, O., Kornreich, C., & Pelc, I. (1993). Alteration of the cerebral blood flow in detoxified alcoholics: A Te-99 M-HMPAO study *Alcoholism. Supplement*, 29(1), 24.

1992

146. Dan, B., Kornreich, C., Verbanck, P., & Toppet, M. (1992, septembre). Le syndrome d'alcoolisme foetal. *Revue médicale de Bruxelles*, 13(7), 249-253.
147. Kornreich, C., Dan, B., Fryns, A., Gozlan, S., & Verbanck, P. (1992, septembre). Approche cognitivo-comportementale de l'alcoolisme: premiers enseignements de la réalisation d'un groupe thérapeutique. *Acta psychiatrica Belgica*, 92(5), 279-293.

148. Kornreich, C., Verbanck, P., De Mol, J., Le Bon, O., Dan, B., & Louryan, S. (1992). Le syndrome d'alcoolisme foetal: A propos d'un cas *Acta Clinica Belgica (English ed. Printed)*, 47, 264-276.
149. Kornreich, C., Dan, B., Fryns, A., Gozlan, S., & Verbanck, P. (1992). Approche cognitivo-comportementale de l'alcoolisme: premiers enseignements de la réalisation d'un groupe thérapeutique *Acta psychiatrica Belgica*, 92, 279-293.
150. Dan, B., Kornreich, C., Verbanck, P., & Toppet, M. (1992). Le syndrome d'alcoolisme foetal *Revue médicale de Bruxelles*, 13, 249-253.
151. Verbanck, P., Kornreich, C., Baert, I., & Gozlan, S. (1992). Lack of evidence that early alcoholics have a more important genetic background than late alcoholics *Alcoholism, clinical and experimental research*, 27 (suppl 1), 43.

1991

152. Le Bon, O., Verbanck, P., & Kornreich, C. (1991). Les modèles animaux de l'alcoolisme *Alcoologie et addictologie*, 3.
153. Kornreich, C., Verbanck, P., Scuvee, J., Giesbers, I., & Maes, A. (1991). Effects of ethanol on the rat medial septum nucleus: An in vivo study *NATO ASI series. Partnership sub-series 4, Science and technology policy*.
154. Le Bon, O., Verbanck, P., Kornreich, C., & Pelc, I. (1991). Modèles animaux de l'alcoolisme *Alcoologie et addictologie*, 3.
155. Kornreich, C., Tasiaux, N., Willems, D., Verbanck, P., & Marchal, J. (1991). Interest of the lidocaïne test in order to assess the liver function of alcoholic patients *Alcohol and alcoholism*, 26(2), 3552.

1990

156. Verbanck, P., Seutin, V., Dresse, A., Scuvee, J., Massotte, L., Giesbers, I., & Kornreich, C. (1990, octobre). Electrophysiological effects of ethanol on monoaminergic neurons: An in vivo and in vitro study *Alcoholism, clinical and experimental research*, 14(5), 728-735. doi:10.1111/j.1530-0277.1990.tb01235.x

Abstract: Monoaminergic neurons have been shown to play a role in both the intoxicating and chronic effects of ethanol. We present here the results of a study about the acute effects of ethanol on serotonergic raphe nucleus, noradrenergic locus coeruleus, and dopaminergic ventral tegmental area. These nuclei were investigated electrophysiologically by recording the spontaneous firing rate of single neurons using glass microelectrodes, both in vivo in chloral hydrate anesthetized rats and in vitro in brain slices. Ethanol was perfused intravenously at a rate ranging from 0.2 mg/kg/min to 0.2 g/kg/min in vivo, and at concentrations between 10⁻⁸ M and 1 M in vitro. We observed that each monoaminergic nucleus had its own pattern of responses to acute ethanol perfusion, and that high and low concentrations have different actions, suggesting a biphasic effect. For example, in slices, ethanol concentrations higher than 10 mM induce an excitation in most raphe and ventral tegmental area neurons, and an inhibition of firing in locus coeruleus neurons. The results were comparable in the in vivo model, but much more heterogenous. We conclude that the effect of ethanol on the monoaminergic neurons is specific of the type of neuron, and that a biphasic effect is commonly found.

1989

157. Verbanck, P., Seutin, V., Scuvee, J., Dresse, A., Kornreich, C., Giesbers, I., & Massote, J. (1989). Acute effect of ethanol on monoaminergic neurons: an in vitro and in vivo study *Alcohol and alcoholism*, 24(4), 390.

Sans date

158. De Mol, J., Kornreich, C., & Pelc, I. (s.d.). Altération des émotions et des motivations dans l'hydrocéphalie à pression normale *Annales*, 15, 29-34.
159. Fleishman, S., Kornreich, C., Foisy, M.-L., Verbanck, P., & Pelc, I. (s.d.). Traitement des patients borderline: le rôle de l'hospitalisation *Acta psychiatrica Belgica*, 101, 316-331.

Articles dans des revues sans comité de lecture (6)

2005

160. Kornreich, C., & Joosten, J. (2005). L'évaluation au sein d'un service psychiatrique hospitalier: état actuel, écueils et perspectives *Mental'idées (Bruxelles)*, 6, 24-28.

1998

161. Kornreich, C. (1998). Le Trouble Obsessionnel-Compulsif *Medi-sphere*, 88, 24-27.

1997

162. Kornreich, C. (1997). Schizophrénie, phobie sociale et trouble obsessionnel-compulsif *Medi-sphere*, 67, 56-57.
163. Kornreich, C. (1997). Dépression: considérations actuelles *Medical news*, 15, 32-34.

1996

164. Kornreich, C. (1996). Trouble obsession- compulsions: Un cas clinique traité par thérapie comportementale *Thérapies comportementales*, 12(1).
165. Kornreich, C. (1996). Panique et Qualité de Vie *Best of Psychiatry (Ed. française)*, 16, 3-6.

Communications publiées lors de congrès ou colloques nationaux et internationaux (6)

2001

166. Foisy, M.-L., Kornreich, C., Blairy, S., Philippot, P., Pelc, I., & Verbanck, P. (2001). Alcoholics infer different personality traits from emotional facial expression compared to controls Abstract session presented at .

1996

167. Kornreich, C. (1996). Psychothérapies et psychotropes dans le traitement des troubles anxieux Abstract session presented at (1996).

1994

168. Den Dulk, A., Verbanck, P., Frenkiel, K., & Kornreich, C. (1994, novembre). Neuropsychiatric disorders in patients with vitamin B 12 deficiency Abstract session presented at (novembre 1994: Bierbeek).
169. Kornreich, C., Verbanck, P., Fryns, A., Le Bon, O., Corten, P., & Pelc, I. (1994). Vers une thérapeutique individualisée du toxicomane Abstract session presented at (1994: Maklu uitgevers).

1990

170. Verbanck, P., Scuvee, J., Giesbers, I., Kornreich, C., & Dresse, A. (1990). Effect of ethanol on the rat medial septum nucleus: An in vivo study Abstract session presented at NATO Advanced Course.

1989

171. Verbanck, P., Bocken, M., Kornreich, C., & Le Bon, O. (1989). Prise en charge de patients toxicomanes: rôle d'un hôpital général Abstract session presented at .

Rapports de recherche, comptes rendus, lettres à l'éditeur, working papers (2)

2004

172. Kornreich, C., & Pelc, I. (2004, avril). *Etude relative à une approche qualitative des facteurs de stress liés aux missions à l'étranger et de leurs influences sur l'évaluation de leur santé par les militaires engagés.*

1995

173. Koning, P., & Kornreich, C. (1995). *Rapport d'évaluation et propositions de prise en charge des toxicomanes en Brabant Wallon réalisé en conjonction avec le Centre l'Orée en collaboration avec l'Observatoire de la Santé du Brabant Wallon en vue de l'implantation d'un centre de jour pour toxicomanes dans cette région.*

Participations à des congrès et colloques internationaux (58)

2013

174. Petit, G., Kornreich, C., Noël, X., Verbanck, P., & Campanella, S. (2013, septembre). *Higher cue reactivity in boys binge drinkers as revealed by event related potentials.* Poster présenté à la conférence Congrès ESBRA European Society For Biomedical Research on Alcoholism, Pologne, Varsovie.
175. Goban, V., Gucciardo, L., Kornreich, C., Damis, E., & Delvenne, V. (2013, juin). *Trouble dela relation mère-bébé en contexte de précarité* Paper session presented at 11ème Colloque du Réseau Mère Enfant de la Francophonie. (6-7 juin 2013: Marseille).
176. Brevers, D., Cleeremans, A., Bechara, A., Kornreich, C., Verbanck, P., & Noël, X. (2013). *Time course of attentional bias for gambling information in problem gambling.* Paper session presented at APGAC (28 June 2011: Hong-Kong, China).

177. Brevers, D., Cleeremans, A., Bechara, A., Laloyaux, C., Kornreich, C., Verbanck, P., & Noël, X. (2013). *Time course of attentional bias for gambling information in problem gambling* Poster présenté à la conférence BAPS (May, 2011: Ghent, Belgium).
178. Brevers, D., Cleeremans, A., Bechara, A., Greisen, M., Kornreich, C., Verbanck, P., & Noël, X. (2013). *Impaired Self-Awareness in Pathological Gamblers*. Poster présenté à la conférence ASSC (9-12 June 2011: Kyoto, Japan).
179. Brevers, D., Cleeremans, A., Bechara, A., Laloyaux, C., Kornreich, C., Verbanck, P., & Noël, X. (2013). *Time course of attentional bias for gambling information in problem gambling*. Poster présenté à la conférence APGAC (26-30 June 2011: Hong-Kong, China).
180. Brevers, D., Cleeremans, A., Bechara, A., Kornreich, C., Verbanck, P., & Noël, X. (2013). *Impaired decision-making under uncertainty in pathological gamblers*. Poster présenté à la conférence Journée des doctorants (24 November 2009: Brussels, Belgium).

2012

181. Gucciardo, L., Kornreich, C., & Delvenne, V. (2012, juin). *Prise en charge des patients précarisés dans une maternité publique de 3200 accouchements.: Identification des risques et stratégies de prévention* Paper session presented at 10ème Colloque Réseau Mère Enfant de la francophonie (14-15 juin 2012: Bordeaux).

2011

182. Petit, G., Noël, X., Kornreich, C., Kajosch, H., Verbanck, P., & Campanella, S. (2011, mai). *Early attentional modulation by alcohol-related cues in young binge drinkers: An event-related potentials study*. Poster présenté à la conférence Belgian Association for Psychological Sciences (BAPS), Ghent.

2010

183. Petit, G., Kornreich, C., Maurage, P., Letesson, C., Noël, X., Verbanck, P., & Campanella, S. (2010, septembre). *Early attentional modulation by alcohol-related cues in young binge drinkers: An event-related potentials study*. Poster présenté à la conférence congrès ESBRA European Society For Biomedical Research on Alcoholism, Paris, France.
184. Kornreich, C. (2010). *Emotion perception in psychopathology: implications for future research* Paper session presented at European Academy of Childhood Disability (May 2010: Brussels).

2009

185. Neu, D., Montana Peral, X., Vandriette, Y.-M., Hoffmann, G., Kornreich, C., Peigneux, P., Verbanck, P., Linkowski, P., & Le Bon, O. (2009). *Psychomotor performance, fatigue, sleepiness and cognitive function in In-Patients with major depression: Correlations with affective symptom intensity* Poster présenté à la conférence ECNP 22° congress (2009: Istanbul).

2007

186. Ben Bassat, D., Dos Reis, P., Van Driette, Y., De Nutte, N., Corten, P., Delle-Vigne, D., Verbanck, P., & Kornreich, C. (2007). *Attentes et motivations vis-à-vis de l'activité physique chez des patients dépressifs hospitalisés* Paper session presented at SRMMB 2007 (2007).

187. Van Driette, Y., Corten, P., Dewell, P., Friedrich, A., Tiv, P., From, L., Kornreich, C., & Verbanck, P. (2007). *Stress au travail et harcèlement moral: une étude comparative des mécanismes adaptatifs et des conséquences psycho-sociales* Paper session presented at SRMMB 2007 (2007).

2005

188. Khaldi, S., Frikha, A., Kornreich, C., & Pelc, I. (2005). *Clozapine in the treatment of bipolar and schizoaffective disorders* Paper session presented at The fifth International review of bipolar disorders (20-22-04-2005: Lyon).
189. Kornreich, C. (2005). *Stress, somatisation et activité physique* Paper session presented at journée Psychosomatique et Psychiatrie. Symposium CUMG (19-03-2005).
190. Khaldi, S., Basiaux, P., De Nutte, N., Dan, B., & Kornreich, C. (2005). *Manic episode precipitated by withdrawal of substitution hormonothérapie in severe hypothyroidism* Paper session presented at The fifth International review of bipolar disorders (20-22-04-2005: Lyon).

2004

191. Kornreich, C. (2004). *De la psychosomatique au bien-être* Paper session presented at Journée de la Clinique du Stress (27-03-2004: Brugmann).
192. Kornreich, C., Foisy, M.-L., & Philippot, P. (2004). *Nonverbal communication in psychiatric disorders: influence on interpersonal difficulties* Paper session presented at First Belgium Meeting on Cognitive Psychopathology (2004: Université Catholique de Louvain, Louvain-la-Neuve, Belgique).
193. Foisy, M.-L., Kornreich, C., Parez, A., Petieau, C., Pelc, I., & Philippot, P. (2004). *Emotional facial expression decoding in alcoholics: Is their deficit specific to emotional cues?* Poster présenté à la conférence First Belgium Meeting on Cognitive Psychopathology (2004: Université Catholique de Louvain, Louvain-la-Neuve, Belgique).
194. Foisy, M.-L., Kornreich, C., Petieau, C., Parez, A., Pelc, I., & Philippot, P. (2004). *Alcoholics and emotional facial expression decoding deficit: Do stimuli' exposure times influence their decoding accuracy?* Poster présenté à la conférence 57th annual meeting of the Belgian Psychological Society (Mai 5, 2004: Université Libre de Bruxelles, Belgique).

2002

195. Kornreich, C. (2002). *Langage du corps : langue universelle ? : Colloque annuel de l'Association Belge de Psychothérapie* Paper session presented at Journée d'études : Corps et Esprit (14-12-2002).

2001

196. Duchateaux, I., Kornreich, C., Verbanck, P., & Pelc, I. (2001). *Trouble obsessionnel compulsif de type religieux: à la limite de la psychose* Paper session presented at SRMMB Société Royale de Médecine Mentale de Belgique (2001).
197. Kornreich, C., Foisy, M.-L., Philippot, P., Verbanck, P., & Pelc, I. (2001). *Emotional facial expression decoding is specifically impaired in alcoholics compared to opiate addicts and*

normal controls Paper session presented at Première Journée des Doctorants (December 13th, 2001: Bruxelles, Belgium).

198. Foisy, M.-L., Kornreich, C., Blairy, S., Philippot, P., Pelc, I., & Verbanck, P. (2001). *Alcoholics infer different personality traits from emotional facial expression compared to controls* Paper session presented at Annual Meeting of the Belgian Psychological Society (04-05-2001).
199. Kornreich, C., Foisy, M.-L., Blairy, S., Philippot, P., Raynaud, E., Pelc, I., & Verbanck, P. (2001). *Does a positive history of alcoholism have an impact on nonverbal decoding impairment in alcoholics?* Paper session presented at P. Verbanck (Chair). Pathology. Oral presentation presented at the 8th Congress of the European Society for Biomedical Research on Alcoholism (September 15th-18th: Paris, France).
200. Kornreich, C. (2001). *Alcoolisme et Emotion* Paper session presented at AEMTC (November 13th, 2001: Louvain-la-Neuve, Belgium).
201. Foisy, M.-L., Kornreich, C., Blairy, S., Philippot, P., Raynaud, E., Pelc, I., & Verbanck, P. (2001). *Does nonverbal decoding partly explain interpersonal difficulties in alcoholics?* Poster présenté à la conférence Alcohol and drugs of abuse Congress (February 7th, 2001: Brussels, Belgium).
202. Kornreich, C., Verbanck, P., Foisy, M.-L., Philippot, P., Blairy, S., & Pelc, I. (2001). *Is nonverbal decoding impairment specific to alcoholism among addictive behaviors?* Poster présenté à la conférence Poster presented at the annual meeting of the AFFORTHECC (2001: Aix-Les-Bains, France).

2000

203. Coustry, S., Kornreich, C., Verbanck, P., & Pelc, I. (2000). *Culture et syndrome de stress post-traumatique: Quelle influence ?* Paper session presented at SRMMB (2000).

1999

204. Kornreich, C., Blairy, S., Philippot, P., Saye, I., Noël, X., Le Bon, O., Baert, I., Pelc, I., & Verbanck, P. (1999). *Deficits in emotional facial expression recognition are still present after long term abstinence in alcoholic patients* Paper session presented at ESBRA (juin 1999: Barcelone).
205. Noël, X., Verbanck, P., Van der Linden, M., Kornreich, C., & Pelc, I. (1999). *Neurocognitive evaluation of just detoxified alcoholics* Paper session presented at ESBRA (juin 1999: Barcelone).

1998

206. Kornreich, C., Kolber, M., & Pelc, I. (1998). *Groupe d'entraide et trouble obsessionnel-compulsif* Paper session presented at 4^e Journées scientifiques de l'AFFORTHEC (Association Francophone de Formation et de Recherche en Thérapie Comportementale et Cognitive) (mai 1998: Liège).
207. Kornreich, C., Philippot, P., Blairy, S., & Pelc, I. (1998). *Adapter les thérapies aux possibilités du patient: a propos de l'alcoolisme* Paper session presented at Journées annuelles de l'AFFORTHEC (07-05-1998: Liège).

208. Kornreich, C., Baert, I., Blairy, S., Streel, E., Philippot, P., & Verbanck, P. (1998). *Etude expérimentale de l'expression émotionnelle chez le patient alcoolique désintoxiqué* Paper session presented at First annual meeting of the « Société Belge d'Alcoolologie » (27-06-1998: Brugmann).
209. Kornreich, C. (1998). *Les douleurs thoraciques atypiques et alarmantes: la névrose cardiaque anxio-dépressive* Paper session presented at Symposium AMUB (16-05 1998: Sofitel).
210. Kornreich, C., Philippot, P., Blairy, S., De Mol, J., & Pelc, I. (1998). *Reconnaissance des expressions faciales émotionnelles chez les patients alcooliques: de multiples erreurs* Paper session presented at CPNLF 96° session du congrès de psychiatrie et de neurologie de langue française (mai 1998).
211. De Mol, J., Kornreich, C., & Pelc, I. (1998). *Altération des émotions et des motivations dans l'hydrocéphalie à pression normale* Paper session presented at CPNLF 96° session du congrès de psychiatrie et de neurologie de langue française (mai 1998).

1997

212. Kornreich, C., Blairy, S., Philippot, P., Muenster, F., Baert, I., Verbanck, P., & Pelc, I. (1997). *Obsessive compulsive disorder patients underestimate facial expression's intensity in others* Paper session presented at BCNBP 19° annual forum (28-11-1997: Bilzen).

1996

213. Streel, E., Kornreich, C., Philippot, P., Blairy, S., Verbanck, P., & Pelc, I. (1996). *Does moderate alcohol intake interfere with accurate perception of emotional subjective reactions?* Paper session presented at BCNBP : Alcoholism : From basic science to clinical medicine (6 décembre 1996: Brussels).
214. Fryns, A., Olivier, P., Gozlan, S., & Kornreich, C. (1996). *Assuétudes et développement de la motivation à l'abstinence* Paper session presented at Journées scientifiques de l'AFFORTHEC (25, 26 et 27 avril 96: Annecy).
215. Kornreich, C. (1996). *Le trouble obsessionnel compulsif: de la biologie au comportement* Paper session presented at Journée annuelle de l'AEMTC (30 -11-1996).

1995

216. Bechet, S., Kornreich, C., & Le Bon, O. (1995). *La prise en charge des alcooliques et toxicomanes* Paper session presented at Journée sur les urgences psychiatriques (08-06-1995: Brugmann).
217. Kornreich, C., Philippot, P., Verpoorten, C., Moran, G., Baert, I., Le Bon, O., Verbanck, P., & Pelc, I. (1995). *Alcoholism and emotional reactivity* Paper session presented at ESBRA (Septembre 1995: Stuttgart).
218. Kornreich, C. (1995). *Psychothérapies et psychotropes dans les troubles anxieux* Paper session presented at journée d'étude annuelle du 3° cycle en psychothérapies (1995: UCL).

1994

219. Kornreich, C., & Chmiel, H. (1994). *Pour une consommation raisonnable d'alcool en entreprise* Paper session presented at CEDORES (1994: Mons).
220. Den Dulk, A., Frenkel, J., Kornreich, C., & Verbanck, P. (1994). *Neuropsychiatric syndromes due to vitamin B 12 deficiency appear to be unrelated to the hematological manifestations of the illness: Case report and neurophysiological study* Paper session presented at Journée annuelle B.C.N.B.P (18-11-1994: Bierbeek).
221. Kornreich, C. (1994). *Drogues illicites: Traitements actuels* Paper session presented at Société Royale de Chimie (Illicit Drugs: Pharmacology, Toxicology, Tracking and Analysis) (25-05-1994: U.L.G.).
222. Kornreich, C. (1994). *Les effets psychiques des produits* Paper session presented at ReSources (Réseau Européen pour la formation à la prévention et à l'intervention dans l'usage de drogues) (03-06-1994: CUNIC).

1993

223. Kornreich, C., Verbanck, P., Le Bon, O., Fryns, A., Corten, P., & Pelc, I. (1993). *Déficits sur le plan des habiletés sociales: rapports avec la consommation d'alcool et utilité des thérapies comportementales* Paper session presented at Alcohol and work (15-17 dec 1993: Brussels).
224. Pelc, I., Verbanck, P., Le Bon, O., & Kornreich, C. (1993). *Les traitements pharmacologiques de l'alcoolisme* Paper session presented at Société Royale de Médecine Mentale de Belgique (mars 1993).
225. Vandeborre, A., Le Bon, O., Kornreich, C., & Verbanck, P. (1993). *Toward an integrated approach of the treatment of alcohol dependence: description of a therapeutic network developed in a general hospital* Paper session presented at Alcohol and work (15-17 dec 1993: Brussels).

1992

226. Kornreich, C., Dan, B., Fryns, A., Gozlan, S., & Verbanck, P. (1992). *Approche cognitivo-comportementale de l'alcoolisme: premiers enseignements de la réalisation d'un groupe thérapeutique* Paper session presented at Société Royale de Médecine Mentale de Belgique (13.06.1992).

1990

227. Verbanck, P., Scuvee, J., Giesbers, I., Kornreich, C., & Maes, A. (1990). *Effects of ethanol on the rat medial septum nucleus: An in vivo study* Paper session presented at NATO Advanced Study Institute ("The molecular pathology of alcoholism".) (août 1990: Il Ciocco).

1989

228. Verbanck, P., Baert, I., Pelc, I., Kornreich, C., & Le Bon, O. (1989). *Vingt ans de prise en charge intégrée de patients éthyliques dans un hôpital général* Paper session presented at Congrès joint B.A.L.P.P.M. (novembre 1989).
229. Verbanck, P., Seutin, V., Scuvee, J., Dresse, A., Kornreich, C., Giesbers, I., & Massote, J. (1989). *Acute effect of ethanol on monoaminergic neurons: an in vitro and in vivo study*

Paper session presented at Congrès E.S.B.R.A.(European society for brain research on alcoholism) (septembre 1989: Bruxelles).

230. Verbanck, P., Bocken, M., Kornreich, C., & Le Bon, O. (1989). *Prise en charge de patients toxicomanes: rôle d'un hôpital général* Paper session presented at Plate-forme internationale sur la toxicomanie (23-04-1989: Bruxelles).

Sans date

231. Kajosch, H., Kornreich, C., Steegen, G., cimochovska, A., Fossion, P., & Campanella, S. (s.d.). *visual, auditory and bimodal ERP oddball designs in patients with schizophrenia, schizoaffective disorder and bipolar disorder.: Does the use of different oddball yasks have an impact on the P300 componenet?* Paper session presented at International Conference on basic and clinical Multimodal Imaging (Berne, Suisse).

Thèses et mémoires (1)

2003

232. Kornreich, C. (2003). *Contribution à l'étude du traitement de l'information émotionnelle dans les assuétudes: exemple de la reconnaissance des expressions faciales émotionnelles* (Thèse doctorale non-publiée) Université libre de Bruxelles, Faculté de Médecine – Médecine, Bruxelles.
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Direction de thèses (2)

2016

233. Delle-Vigne, D. (2016). « *Two is better than one* » : *Une proposition pour réhabiliter l'usage de la composante P300 audio-visuelle en routine clinique.* (Thèse doctorale non-publiée) Université libre de Bruxelles, Faculté des Sciences psychologiques et de l'éducation, Bruxelles.

Abstract: Depuis toujours, la question de la prise en charge la plus adéquate de l'individu en souffrance a préoccupé chercheurs et cliniciens. Comment obtenir un diagnostic fiable ? Peut-on prévenir le décours d'un trouble ? Quel type d'intervention est le plus adapté pour la personne ? Avec l'évolution des techniques d'imagerie, la discipline s'est ajustée au fil du temps, rendant indispensable une collaboration multidisciplinaire, avec un objectif commun : restaurer un bien-être bio-psycho-social pour l'individu. Nous nous intéressons dans ce manuscrit à une des méthodes d'imagerie en particulier, les potentiels évoqués et la composante P300. Reléguée au second plan au profit d'autres techniques comme l'imagerie fonctionnelle par résonance magnétique ou la magnétoencéphalographie, nous soutenons qu'il est pourtant profitable de renouveler et réinstaurer son usage en routine clinique. En rendant visible l'invisible, en permettant de détecter des dysfonctionnements cérébraux avant qu'ils ne se muent en symptômes cliniques, ils nous offrent en effet une information inédite sur le fonctionnement cérébral, que nulle autre méthode ne fournit, à savoir le décours temporel en direct des opérations mentales suite à une tâche cognitive. Notre proposition vise à améliorer l'application courante de ces potentiels évoqués, malgré un rapport négatif à leur encontre de la part du KCE (Centre d'expertise des soins de santé en Belgique). A travers l'exemple de la dépression sous-clinique, nous testons la sensibilité d'un paradigme oddball audio-visuel, permettant de révéler chez ces individus, une atteinte des processus intégratifs,

déficit que l'emploi actuel des potentiels évoqués ne permettait pas de mettre en évidence. Nous insistons également sur une approche « multi-composantes », impliquant de relever des indications sur le fonctionnement cérébral à différents moments du continuum du traitement de l'information (e.g. perceptif, attentionnel, décisionnel), afin d'obtenir une impression globale du fonctionnement cognitif de l'individu. Cette démarche soulève, bien entendu, un certain nombre d'implications expérimentales et cliniques. Au niveau expérimental, un travail doit être fait par la communauté scientifique pour standardiser la méthode d'acquisition, et en ce sens, un « guideline » et des données normatives manquent encore à l'heure actuelle. Explorer la pathologie d'un point de vue psychophysiologique pourrait amener à redéfinir des catégories nosographiques transcendant les traditionnels critères de type DSM. Au niveau clinique, puisque les atteintes sous-cliniques deviennent maintenant détectables, les démarches préventives de la pathologie sont questionnées, à travers la possibilité réelle de déterminer des marqueurs physiologiques potentiels de la maladie mentale, avec les conséquences éthiques que cela comporte. Une réflexion sur l'intervention thérapeutique doit également être entreprise, puisqu'en révélant l'origine cognitive des symptômes de l'individu, un réentraînement personnalisé de ces fonctions cognitives déficientes peut constituer la première étape d'une réhabilitation d'un fonctionnement psycho-social adéquat pour l'individu. En travaillant d'abord sur un changement méthodologique, nous soutenons que les potentiels évoqués méritent à nouveau la place qui leur revient dans la « boîte à outils » du clinicien. Pour paraphraser le professeur Guérit, il convient de laisser à l'ouvrier, avec son bagage de connaissances et de compétences, la liberté de choisir les outils qu'il considère les plus appropriés dans son intervention auprès de l'individu en souffrance.

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2014

234. Petit, G. (2014). *Identification de marqueurs neurophysiologiques pronostiques de la rechute dans l'alcool-dépendance* (Thèse doctorale non-publiée) Université libre de Bruxelles, Faculté des Sciences psychologiques et de l'éducation, Bruxelles.

Abstract: Nous proposons que c'est le manque d'individualisation qui fait défaut aux méthodes actuelles destinées à traiter l'alcool-dépendance qui ne s'avèrent que modérément efficaces, si l'on en juge par la proportion importante de rechutes sous traitement. Les théories contemporaines dominantes postulent que les addictions et leur maintien pourraient être expliqués par le déséquilibre entre deux grands systèmes neuraux et les mécanismes cognitifs qui y sont associés: un système impulsif, dépendant des régions méso-cortico-limbiques, à la base des mécanismes de récompense, de renforcement et de la formation d'habitudes, et un système réflexif, dépendant du cortex préfrontal, indispensable aux comportements de prise de décision, à l'anticipation des conséquences des comportements et au contrôle inhibiteur. Nous avons dans ce travail développé des outils électrophysiologiques de diagnostic de deux troubles cognitifs clés associés au dysfonctionnement de ces deux systèmes : les biais attentionnels et les troubles de l'inhibition. Nous avons pré-testé ces tâches combinées à l'enregistrement des potentiels évoqués dans des populations d'étudiants binge drinkers et de gros consommateurs d'alcool. Nous avons ensuite testé leur valeur prédictive de la rechute dans une population de patients dépendants en fin de cure de désintoxication. Nous pensons avoir dégagé l'existence de deux marqueurs neurophysiologiques pouvant prédire à trois mois la rechute ou l'abstinence du patient alcool-dépendant : il s'agit (1) d'un facteur de rechute, indexé par une P3d plus ample suggérant un besoin accru de ressources neurales pour inhiber correctement un comportement, et (2) d'un facteur de protection, indexé par une composante P3 moins ample en réponses aux stimulations liées à l'alcool, suggérant qu'un investissement motivationnel moindre des stimuli « alcool » peut protéger d'une rechute. La réplication et la confirmation de nos résultats ainsi que l'amélioration de nos outils pourraient mener à l'utilisation des marqueurs mis en évidence en pratique clinique afin d'orienter de façon personnalisée la prise en charge des patients.<p><p>

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Participation aux jurys de thèse (4)

2018

235. Lossignol, D. (2018). *Analyse du discours dans la demande d'euthanasie. Expérience de la consultation médico éthique* (Thèse doctorale non-publiée) Université libre de Bruxelles, Faculté de Médecine – Médecine, Bruxelles.

Abstract: Ce travail de thèse s'appuie sur l'analyse du discours des patients que je rencontre dans le cadre de la consultation médico éthique. Les objectifs principaux sont de comprendre le contexte de la demande d'euthanasie et le cheminement intellectuel du patient qui en vient à structurer la pensée de l'euthanasie jusqu'à la formuler et en faire la demande à son médecin, d'analyser le délai entre cette structuration de la pensée et la demande concrète au médecin, ainsi que le moment où il l'aborde avec sa famille, de déterminer le moment de la rupture biographique de l'histoire de la personne qui conduit à l'élaboration de la demande, de réaliser une analyse anamnestique de la demande, à la recherche de facteurs spécifiques qui motivent celle-ci (extérieurs, environnementaux, religieux, convictions personnelles, expérience vécue, existence d'une déclaration anticipée). La consultation médico éthique de l'institut Jules Bordet a été créée en 2012. Elle a été la première du genre en Belgique francophone et est accessible à toute personne désireuse d'exprimer ses volontés mais également son questionnement concernant la fin de vie. Dans ce cadre, l'analyse prospective de 75 dossiers, avec entre autre enregistrement des entretiens, a permis de récolter un certain nombre de données et d'information concernant différents points qui se retrouvent dans l'élaboration de la demande d'euthanasie et en particulier le contexte menant à celle-ci, le rôle des médecins traitants et le rapport qui existe ou non avec le suicide. A partir de ces éléments, trois questions se sont imposées à savoir : 1. Existe-t'il un profil type du patient en termes de personnalité qui demande l'euthanasie ? 2. L'existence d'une affection grave et incurable est-elle à l'origine de la demande ou est que celle-ci est réfléchi en dehors d'un contexte médical ? 3. L'euthanasie est-elle équivalente à un suicide ? De l'analyse des données et de l'expérience acquise en clinique, je démontre qu'il n'y a pas de profil type de patient, que la réflexion à propos de l'euthanasie n'est pas systématiquement associée à un contexte médical et que l'euthanasie n'est pas assimilable à un suicide. La demande d'euthanasie n'obéit pas à une construction sociale et reste intimement liée à l'identité narrative de la personne. Un élément important est la position de résistance qu'adopte le patient face à une fin de vie qu'il redoute, moins parce qu'elle survient inéluctablement que parce qu'elle pourrait survenir dans de mauvaises conditions, qui elles-mêmes sont évitables. Ensuite, une réflexion portant sur les concepts de souffrances physique et psychique, sur la question de la clause de conscience de la spiritualité, le Serment d'Hippocrate, est proposée de même qu'une comparaison entre la Belgique et la France. La formation des médecins concernant les différents aspects de la fin de vie reste un élément essentiel de la pratique et garantit un dialogue constructif et respectueux des volontés de chacun. Après 15 ans de dépénalisation, cela demeure un enjeu majeur. Le débat concernant l'euthanasie ne peut se clore. Bien au contraire, il doit perdurer malgré les avancées et les acquis et ce, face à des positions liberticides et moralisantes qui ne cesseront pas de surgir.

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2016

236. Cevallos Barragan, C. (2016). *THE RESONANCE OF BIOLOGICAL MOTION THROUGH VISUAL PERCEPTION IN THE HUMAN BRAIN* (Thèse doctorale non-publiée) Université libre de Bruxelles, Faculté des Sciences de la Motricité, Bruxelles.

Abstract: Taking research as a tool to learn how new technology can develop new diagnosis and treatment methods in the physical field, takes place the education in motor sciences. On one hand, current research has shed light into novel methods to improve motor performance for athletes as well as for people learning new motor gestures. On the other hand it has also helped to improve treatment efficiency for people suffering motor cerebral lesions like: cerebrovascular attack (CVA) and cerebral palsy. This doctoral thesis addresses different protocols to analyze motor gestures and brain oscillations through visual perception. Our brain encompasses a changing symphony of oscillating activity throughout our lives. Up to the time we are born, we are ready to feel and move to interact with our world. Our senses develop rapidly and we start to perceive the world and learn. We visually perceive and process big amounts of information on a daily basis. At the same time we see movements from ourselves and from others in order to communicate and interact with our environment. We watch the world move. Moreover, from the links that exist between motor and sensory systems in human beings we may approach individual motor activity as a loop between a control (brain) over the effectors (muscles) which act, perceive and send the information back to the control source. The present group of works presented in this doctoral thesis is based on the correlation between human brain scalp activity, measured by means of electroencephalography (EEG) recordings, visual perception and its interpretation through different approaches.

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2015

237. Nicolis, H. (2015). *Interactions coopératives, processus développementaux et comportements psychopathologiques agis: une approche dynamique* (Thèse doctorale non-publiée) Université libre de Bruxelles, Faculté de Médecine – Médecine, Bruxelles.

Abstract: This work deals with the different manifestations of cooperativity in pedopsychiatry in connection with severe disorders in adolescence such as suicide attempts and runaways, and developmental processes in early childhood. Our principal hypothesis is that cooperativity, nonlinearity and the resulting feedback loops underlie the appearance of suicidal peaks, the transitions between different mental states in a population of susceptible, suicidal and runaway individuals, or finally the selfish to egalitarian transition in young children. The principal methodology put forward is mathematical modeling, which allows one to identify the principal mechanisms present, to assess the role of the environmental constraints and to make predictions. This provides in turn insights on possible prevention, management and therapy strategies. Using this approach we have shown that suicide contagion can take an explosive form that is dramatically accelerated by the presence of virtual contacts as it happens, in particular, in communication via the Internet. Different scenarios have been explored, inspired by typical cases encountered in clinical practice when taking in charge adolescents in crisis. Regarding the population of susceptible, suicidal and runaways, a model has been developed whose analysis shows that depending on the parameter values and the size of the initial population the system can evolve toward states where the populations of the suicidal and of the runaways are negligible or, on the contrary, reach appreciable values. Finally, we have shown that in absence of interactions between individuals the selfish to egalitarian transition in children occurs gradually, whereas in the presence of cooperativity the transition is more abrupt. Our results suggest that when taking in charge adolescents in a state of risk contagion and transition between mental states must be recognized as additional iatrogenic risks, which can be minimized by privileging small non-mixed groups.

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2010

238. Leistedt, S. (2010). *Contribution to the study of major depressive illness using non-invasive sleep complexity measures* (Thèse doctorale non-publiée) Université libre de Bruxelles, Faculté de Médecine – Médecine, Bruxelles.

Abstract: Major Depressive Disorder (MDD) is exceedingly prevalent and considered to be one of the leading cause of disability worldwide. Depression is also a heterogeneous disorder characterized by complex diagnostic approaches with a lack of diagnostic biomarker, an inconsistent response to treatment, no established mechanism, and affecting multiple physiological systems such as endocrine, immunological and cardiovascular as well. The growing impact of the analysis of complex signals on biology and medicine is fundamentally changing our view of living organisms, physiological systems, and disease processes. In this endeavour, the basic challenge is to reveal how the coordinated, dynamical behavior of cells and tissues at the macroscopic level, emerges from the vast number of random molecular interactions at the microscopic level. In this way, the fundamental questions could be: (i) how physiological systems function as a whole, (ii) how they transduce and process dynamical information, (iii) how they respond to external stimuli, and mostly (iv), how they change during a pathological process. These challenges are of interest from a number of perspectives including basic modeling of physiology and practical bedside approaches to medical and risk stratification. The general purpose of this thesis, therefore, is to study physiological time series to provide a new understanding of sleep dynamics in health, specifically as they apply to the pathological condition of MDD. More precisely: (1) to quantitatively characterize the complex, nonlinear behaviour of cardiovascular (ECG) and electroencephalographic (EEG) time series during sleep, in health and in MDD. This project will test the hypotheses that both the sleep EEG and ECG detects reorganization in the system dynamics in patient suffering from depression. (2) To develop new diagnostic and prognostic tests for MDD, by detecting and extracting "hidden information" in the ECG and EEG datasets. Three different methods are introduced in this thesis for the analysis of dynamical systems. The first one, detrended fluctuation analysis, can reveal the presence of long-term correlations ("memory" in the physiological system) even when embedded in non-stationary time series. Graph theoretical measures were then applied to test whether disrupting an optimal pattern ["small-world network"] of functional brain connectivity underlies depression. Finally, multiscale entropy method, which is aimed at quantifying the complexity of the systems' output resulting from the presence of irregular structures on multiple scales, was applied on the ECG signal. The results indicate that healthy physiologic systems, measured through the EEG and the ECG signals, are the most complex. According to the decomplexification theory, the depressive disease model exhibits a loss of system complexity, with potential important applications in the development and testing of basic physiologic models, of new diagnostic and prognostic tools in psychiatry, and of clinical risk stratification.

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