**Formulaire pour soumettre un protocole de recherche pour évaluation auprès du Comité d’Éthique de la Recherche de l’Université de Paris (CER U Paris)i**

**Répondre à toutes les questions**

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| Titre du projet | L’effet de la motivation sur la régulation du traitement attentionnel de stimuli émotionnels. |
| Chercheur ou enseignant chercheur **correspondant** du projet (nom et prénom, mail et téléphone et affiliation) | **Juliana SPORRER**  E-mail : [juliana.sporrer.18@ucl.ac.uk](mailto:juliana.sporrer.18@ucl.ac.uk)  Téléphone : +330687502414  Affiliation : Motivation, Brain, Behaviour lab dans l’Institut du Cerveau (ICM), Hôpital Pitié Salpêtrière, 47 Boulevard de l'Hôpital, 75013 Paris |
| Chercheur ou enseignant chercheur **responsable** du projet *(si le demandeur est étudiant(e), le responsable peut être l’****encadrant ou autre****)* (nom et prénom, mail et téléphone, fonction, discipline et affiliation) | **Jean DAUNIZEAU**  E-mail [jean.daunizeau@gmai.com](mailto:jean.daunizeau@gmai.com)  Téléphone :  Discipline : Neurosciences Computationnelles  Affiliation : Motivation, Brain, Behaviour lab dans l’Institut du Cerveau (ICM), Hôpital Pitié Salpêtrière, 47 Boulevard de l'Hôpital, 75013 Paris |
| Personnes **associées** au projet (nom et prénom, fonction, discipline et affiliation) | N/A |
| Université ou institut principal concerné par le projet | Institut du Cerveau (ICM) – Hôpital de la Pitié-Salpêtrière |
| Début prévu pour la recherche | 05/2020 |
| Fin prévue pour la recherche | Étude longitudinale jusqu’à 2 mois après la fin du confinement COVID-19 |
| Lieu(x) de déroulement de l‘étude | Expérimentation en ligne sur un ordinateur. |
| Financement de la recherche  *(afin de vérifier l’absence de conflits d’intérêt)* | Inserm |

*1 Si vous vous demandez si votre protocole peut être évalué par un CER ou s’il doit passer devant un CPP, vous pouvez aller sur le site de la fédération pour faire une auto-évaluation. Cette auto-évaluation vous donnera une indication pouvant vous faire gagner du temps (et à nous aussi).*

**Résumé grand public en français** *(une page maximum en times new roman 11)*

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| Contexte et justification de la recherche |
| Le self-control, c’est-à-dire la capacité à réguler ses actions, ses pensées et ses émotions, est fortement altéré chez les patients atteints de troubles de l’humeur et de troubles anxieux. Cela-dit, cette perte de contrôle est, à ce jour, mal documentée. Les stimuli portant une forte charge émotionnelle attirent notre attention plus rapidement et efficacement que des stimuli « neutres ». Bien que ce biais attentionnel vers les objets émotionnels nous procure vraisemblablement un avantage évolutif, il peut aussi s’avérer inadapté. Par exemple, il pourrait être problématique de se laisser distraire par un stimulus émotionnel plutôt que de prioriser le traitement attentionnel d’une information pertinente pour notre objectif actuel. En résumé, un contenu émotionnel est avantageux s’il rend prioritaire le traitement du stimulus lorsque celui-ci est pertinent pour les objectifs en cours, ou alors, désavantageux si le stimulus n’est pas pertinent. Mais le contrôle volontaire du biais émotionnel pourrait s’avérer difficile, et donc nécessiter une augmentation des ressources attentionnelles. Notre hypothèse de travail est que ce contrôle résulte d’un arbitrage motivationnel entre le coût de l’effort cognitif et le bénéfice qui en résulte. |
| Objectifs et hypothèses |
| Le but de cette recherche est d’étudier l’influence des états d’anxiété et d’humeur sur le contrôle volontaire du biais émotionnel. D’une part, nous caractérisons l’efficacité du contrôle en mesurant la diminution du biais émotionnel induite par une augmentation de la récompense en jeu. D’autre part, nous nous attacherons à exploiter les variations d’anxiété et d’humeur induites par la situation de confinement (et à sa levée) liée à la pandémie actuelle de COVID-19. |
| Description claire et concise du protocole, des méthodes, des participants |
| Nous utiliserons le paradigme de la présentation visuelle série rapide (PVSR), dans lequel des visages neutres et effrayés sont présentés très brièvement dans un flux continu. Les participants doivent détecter le sexe du visage cible qui est présenté brièvement après un visage distracteur. On mesure le biais émotionnel par l’augmentation de performance entre une situation dans laquelle la cible est un visage effrayé et le distracteur est un visage neutre (condition favorable), et la situation inverse (condition défavorable). On mesure l’efficacité du contrôle volontaire par la diminution du biais émotionnel lorsque l’enjeu est plus important (dans certains essais, la récompense monétaire attachée à une réponse correcte et plus forte).  Les participants seront recrutés en ligne, sur une base volontaire, via la plateforme du RISC (Relais d’Information sur les Sciences de la Cognition). S’ils consentent à participer à l’étude, ils effectueront le test d’efficacité du contrôle toutes les semaines pendant la durée restante du confinement, puis une fois toutes les deux semaines jusqu’à deux mois après la fin du confinement. A chaque session de test, ils rempliront un questionnaire d’humeur et d’anxiété, de manière à pouvoir, rétrospectivement, évaluer l’impact de ces états sur le contrôle volontaire du biais émotionnel. |

# Projet scientifique

*(en français ou en anglais, dix pages maximum pour les sections 1 à 4, en times new roman*

*11)*

1. **Description sommaire du projet** *(la description doit être claire et concise)*

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| Cadre théorique, contexte et intérêt scientifique    The current COVID epidemic has required extraordinary public health measures in most countries around the world. In France, containment has started on the 11th of March 2020, and is expected to last at least until the 18th of May 2020. This implies that many people are staying at home, in a situation of partial social isolation. In turn, this may induce psychological distress, which may result in elevated anxiety and/or depressed mood. From a scientific perspective, this may be a unique opportunity to study the relationship between ongoing fluctuations of anxiety/mood states and cognitive processes. In particular, we aim at exploring the co-occurring fluctuations in specific aspects of social cognition, self-control and self-efficacy learning.  Our brains are continuously flooded with information, whether it is from external stimuli or internal representations. In order to successfully manoeuvre in our complex world, we need to be able to select and integrate the most relevant cues. Given the high importance of some stimuli for our survival which are usually tagged with emotional meaning, the ability to rapidly detect them and possibly avoid dangerous situations procures a serious evolutionary advantage (Brosch et al., 2010). Over several decades, numerous studies have shown that emotionally salient material benefits from a preferential and prioritised allocation of attention resources (Fox et al., 2002, 2001). In particular, this applies to stimuli that are perceived as threatening such as faces with a negative emotional expression or aversive stimulations. Per example, the emotional content of a target allows faster detection times in visual search tasks (Anderson, 2005; Fox, 2002; Öhman et al., 2001).  While this attentional bias towards emotional information is of considerable adaptive value, there may be situations for which the brain has to deal with contrasting demands. For example, the attentional processing of a goal-relevant stimuli may need to be privileged over irrelevant emotional information (Vuilleumier et al., 2001). However, this can be challenging as the emotional attentional bias comes with a cost due to the limited capacity of the sensory systems, also known as the “limited processing-resources dilemma”. Less attentional resources will be available for other stimuli if they are automatically and mainly allocated to emotionally salient stimuli. This creates competition at both the perceptual and executive levels (Pessoa, 2009). Per example, variants of the Stroop task have shown that participants are unable to fully disregard the irrelevant emotional meaning of the stimuli even if it is counterproductive for optimal naming speed (Richards and Blanchette, 2004).  In sum, the emotional content of a stimuli can either be helpful (i.e. beneficial) or harmful (i.e. detrimental) depending on the context (Gross, 2015). It can be helpful when it appropriately and rapidly guides attentional processing towards the target or relevant stimulus, increasing performance and reducing response time. In contrast, it can be harmful when it inappropriately guides attentional processing towards a distractor or irrelevant stimulus leading to decreased performance and higher response time. These two instances, but especially the latter, raises the question whether it is possible to regulate this “emotional attentional bias”. More precisely, if individuals can enhance the beneficial effect of emotional material (i.e. up-regulate the bias) as well as overcoming its detrimental effect (i.e. down-regulate the bias).  In order to tackle this question, different frameworks for conceptualising emotion regulation have been put forward. Despite displaying some differences, most models reach consensus on the target of regulation (Morawetz et al., 2017). It is thought to target three emotion-generating processes including attentional deployment, cognitive change and response modulation (Gross, 2015; Koole, 2009; Webb et al., 2012). Within this framework, the goal-oriented attentional deployment, and especially the distraction and concentration strategies, are of main interest to us. Attentional deployment refers to the use of selective attention to direct one’s attention in order to influence the emotional response (Gross, 2015; McRae et al., 2010; Ochsner and Gross, 2005). More precisely, distraction is a strategy by which individuals direct their attention to another feature within a given stimulus (e.g. from an emotionally salient to a neutral feature) or shift their attention away from the stimuli entirely (e.g. look at another stimuli). In contrast, in the less studied concentration strategy, individuals direct their attention to the emotionally salient feature within a given stimuli or shift their attention towards the presented stimuli (Morawetz et al., 2017; Webb et al., 2012). In summary, distraction can be used to down-regulate and concentration to up-regulate the emotional attentional bias of negative material.  In brief, the existing literature demonstrates that healthy individuals can, at least partially, regulate the attentional capture induced by emotional content. However, whether the motivational state of the individual can modulate the efficacy of this regulation is unknown. Intuitively, such regulatory process is costly and, ideally, should only be engaged when the outcome is “worth” the effort. Recall that a growing body of empirical evidence indicates the close interplay between visual attention and motivation. For example, detection sensitivity in a demanding attentional task increases when individuals are incentivised to perform well (Engelmann and Pessoa, 2007). More precisely, incentives affects both the orienting and reorienting of exogenous spatial attention (Engelmann and Pessoa, 2007). This is because higher rewards lead to better inhibition of distractors, eventually yielding more efficient inhibitory attention mechanisms (Libera and Chelazzi, 2006). This behavioural improvement is possibly due to the sharpening of selective attention and modulation of both bottom-up (i.e. stimulus-driven) and top-down processes (i.e. goal-driven). In turn, motivation helps solving the limited process-resources dilemma by attributing value to candidate attentional resource policies (Pessoa and Engelmann, 2010). |
| Hypothèses et objectifs de la recherche    Our objectives and related hypotheses are twofold. On the one hand, we will assess the possible effect of motivation on the selective attentional processing of emotional stimuli. We hypothesize that higher rewards can lead to better attentional control of emotional distractors. The reward-induced performance gain in attentional control is what we coin “control efficiency”. On the other hand, we will investigate the possible relationship between anxiety/mood and control efficiency. Here, we hypothesize that higher anxiety and lower mood distort self-control and therefore decrease control efficiency. |

1. **Matériel et méthodes** *(l’évaluation du CER porte en grande partie sur la façon dont le protocole semble réalisable et sans danger, physique et psychologique, pour les participants)*

Participants (nombre, critères d’inclusion, âge, sexe, autres, d’exclusion)

Recall that this is an exploratory experiment, which means we have no prior estimate of the effect size for the power analysis. In turn, we cannot derive a formal sample size for the experiment. However, we know that the probability of participants’ drop-out in longitudinal experiments is already high. We also know, previous experience with similar testing conditions, that this drop-out rate is likely to be even higher in the context of online experiments (Klindt et al, 2016). Therefore, our worst-case scenario is that 70% of participants would effectively quit before the end of the experiment, which is why we aim at enrolling 100 participants.

Inclusion criteria are:

• Participants must provide informed consent

• Participants must be over 18 years of age.

Exclusion criteria are:

• Participants must not have a neurological or psychiatric history.

• Participants should not be under psychotropic treatment.

• Participants must not have an ophthalmological history.

• Additional performance-based exclusions criteria follow standard international guidelines (Oppenheimer et al., 2009). In particular, during the main experiment, participants performing near-chance level on the task (i.e. > 55% accuracy) for more than 95% of the time will be excluded. A catch question (i.e. “If you are paying attention to these questions, please select "A little" as your answer") is included in one questionnaire. Failing to respond to this question accordingly will result in the exclusion of the participant. Note: we will not exclude participants on the basis of other (non-catch items)

We ask participants to complete about 10 experimental sessions during the whole longitudinal study (see testing schedule below). However, they are allowed to withdraw from the study at any time, without having to justify their decision.

Modalités de recrutement des participants

The participants will be recruited through RISC (Relais d’Information sur les Sciences de la Cognition: this is a specialised platform on which many people who take part in Cognitive Science experiments of various institutes in Paris are registered), as part of a larger cognitive study that comprises this and two additional projects of the same kind.

Personal information including name, contact email address and banking details (which are required for later financial retribution) will be collected upon participants’ registration by the ICM/PRISME platform and stored according to General Data Protection Regulation standards, along with participants’ de-identified ID code.

Note: participants test and questionnaire data will be collected using a crowdsourcing ICM/PRISME and stored on a separate (GDPR-compliant) secure database, and linked to participants’ ID code (without any connexion to the personal information above).

Indemnisation éventuelle

Since online testing does not require participants to leave home, they will receive a base rate salary of € 8 test session (each test session comprises XXX trials and lasts for about one hour) plus a financial bonus depending on their performance on test sessions (of up to about €8). This bonus is important for assessing the effect of motivation. Two months after the start of the experiment, participants will receive the base rate salary that corresponds to the sessions that they have performed so far. The remaining amount will be paid upon completion of the longitudinal study.

Recall that aearn Importantly, each trial is associated with either a low (0.05 €) or a high (2€) reward. At the end of the session, we will select 4 trials of each kind at random. Participants will receive the sum of the reward associated with each correct answer within these preselected trials. The participants can thus receive a bonus between 0 and 8,20€ and thus, a total ranging between 8€ and 16,20€ per session. We expect the longitudinal study to yield about 10 sessions (pending the outcome of this ethical application). This means that each participant can earn, overall, between 80€ and 162€. Online payment will be processed by the ICM/PRISME platform, upon completion of the longitudinal study.

Protocole (description des tâches et matériel utilisé). *Les échelles, questionnaires, grilles d’entretien, etc., doivent être présentés en annexe*.

Material:

Due to their ecological validity and ease of use, a commonly used class of stimuli to investigate attentional processing of emotions consists of faces with emotional expressions. We utilise the Chicago Face Database (CFD) which provides standardised and high-quality images (Ma et al., 2015). We already used the associated norming data which includes subjective ratings from a large sample of participants to exclude faces that were not Caucasian and were rated as looking too unusual, too afraid or too surprised even in a neutral facial expression (i.e. ratings being three standard deviations from the mean). In summary, our stimuli set is composed of four different emotional faces categories; fearful males (N = 29, 11.98%), neutral males (N=91, 37.60%), fearful females (N=36, 14.88%), neutral females (N=86, 35.54%) for a total of 242 images.

Experimental design:

At each RSVP trial, participants are asked to attend to a target embedded in a stream of 13 non-critical distractors and one critical distractor, each displayed in the center of the screen for 70 ms with no interstimulus interval. The critical distractor is presented either 1 image apart (lag 2, 140 ms) or 3 images apart (lag 4, 280 ms) before the target and each consist of an intact face (i.e. not scrambled). In contrast, the non-critical distractors are faces scrambled into 16 (4 x 4) randomly positioned squares. At the end of the RSVP trial, participants are asked to report on the target’s gender as quickly and accurately as possible (correct answers enter the final bonus they receive, see below). Then, there is a blank inter-trial interval of 2000 ms before the start of the next trial.

The emotional nature of each stimulus is dependent on the condition. In the detrimental condition (DC), the distractors are fearful faces with a neutral target as emotional distractors impact the detection of the non-emotional targets according to the Emotional Attentional Blink (EAB, McHugo et al., 2013). In the beneficial condition (BC), the distractors are neutral faces and the target is a fearful face (whose saliency will help its detection). In the control condition (CC), the emotional valence of the distractor and target are identical (50% both fearful and 50% both neutral).

Before the start of each session, participantsrememberedeither or mislead , depending on the condition they are inAt the start of each RSVP trial, participants are fully informed about the condition and about the reward at stake. Note: The CC trials are transparent to the participants, because they are randomly integrated into the DC or BC such that there is an even number of trials in each condition.

By design, the target is 50% of the time a male or a female. But the question the participant is asked regarding the target’s gender depends upon the critical distractor. If the distractor is a female, then the participants are asked if “Was there at least one male?” and if it is a male then they are prompted with “Was there at least one female?”. The participants are asked to reply “Yes” or "No” as quickly and as accurately as possible by either pressing the key “Y” or “N” respectively.

In summary, one single experimental session follows a 2 x 3 within-subject factorial design, where the first factor is reward magnitude (2 levels: small and large) and the second factor is usefulness of the emotional material (3 levels: detrimental, control and beneficial). Each cell in this factorial design comprises XXX RSVP trials, which means XXXRSVP trials for each session (in total, each experimental session lasts for about one hour).

Longitudinal Study

Each participant will be asked to perform multiple experimental sessions over time, over a period of about 2 months. More precisely, data collection will start, if possible (pending the outcome of this ethical application), before the end of the containment period, and will end six months after its termination. During the containment period, participants will be tested on a weekly basis. Then, during the next two months, they will perform the tests once every two weeks. Finally, over the remaining 3 months, they will be tested on monthly basis.

Self-report Questionnaires

After completion of the behavioural session, participants will be asked to answer two quick self-report questionnaires, namely: the “Hospital Anxiety and Depression Scale” (Bocéréan and Dupret, 2014) and the “Starkstein Apathy Scale” (Starkstein et al., 1992).

In addition, participants will fill in a modified version of the questionnaire assessing peoples’ well-being during the COVID-related containment (<https://sondage.inserm.fr/index.php/461237/lang-fr>), which was published by the Centre Ressource de Réhabilitation Psychosociale (CHU le Vinatier, Lyon).

We expect this to last for about 30 minutes in total.

Résultats escomptés

1. Control efficiency (1): comparison between DC and CC conditions. In particular, performance should be lowest in the detrimental condition (DC) as the emotional salient stimuli act as a distractor and will have an emotion-disturbing effect on attention. The performance gap between the control condition (CC) and DC represents the inability to inhibit emotional attention. We expect this performance gap to be *decreased* by incentives, i.e. it should be higher in the low reward condition compared to the high reward condition, even if the average performance in CC increases with incentives. This would be because external incentives would compensate for the cost of inhibiting the emotionally distracting stimuli. This is why we refer to the reward-related reduction in the performance DC-CC gap as the efficiency of control.
2. Control efficiency (2): comparison between CC and BC conditions. Conversely, we expect that the performance is highest in the beneficial condition (BC), because emotionally salient stimuli act as targets and have an emotion-enhancing effect on attention. The performance gap between the BC and the CC represents the ability to enhance the attentional processing of emotional material. We expect this performance gap to be *increased* by incentives, which is another measure of control efficiency.
3. Relationship between control efficiency and anxiety/mood. The termination of the current COVID-related containment situation is likely to induce detectable variations in anxiety and mood, which we will monitor using dedicated questionnaires. Importantly, we expect control efficiency to vary along with mood and anxiety fluctuations. More precisely, we expect control efficiency to increase when mood increases and/or when anxiety decreases.

## 3/ Évaluation des risques éventuels pour les participants

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| Risques éventuels : sensorimoteurs *(risques de chute, etc.),*cognitifs *(protocole modifiant l’état de vigilance, etc.),*psychologiques *(questions invasives, etc.), sociaux, légaux, économiques, etc.*    The study is performed online, and is therefore observational and not interventional. There is no foreseeable risk in participating in this study. |
| Dispositions envisagées pour répondre aux risques identifiés dans la recherche *(par exemple prévoir une période de retour à l’état pré-expérimental, prévenir les participants, etc.)*  Participants will be encouraged to consult the help and advice sheets published on the Centre Ressource de Réhabilitation Psychosociale (<https://centre-ressource-rehabilitation.org>). |

## 4. Traitement des données – respect de la vie privée des participants

Conditions de traitement des informations et procédure d’anonymisation et de conservation des données

After reading an information sheet describing the purpose and data management of our online study, as well as regarding their potential financial retribution, participants will be asked to confirm their voluntary consent. In particular, participants will be informed that, to help future research and make the best use of the research data, we will store the research data indefinitely (on a ICM secure, GDPR-compliant, server) and may share it with other academic researchers at a later stage. Participants will also be informed that they have the right to refuse and withdraw their consent to the participation and use of the data at any time during the experiment, without having to justify their decision. Any research data that was already collected may still be used, unless the participant request that it is destroyed. However, once unidentifiable data and research results have been anonymised and communicated or shared (see below), it will not be possible for them to be destroyed, withdrawn or recalled.

All test results and questionnaire responses will be stored on a secure, GDPR-compliant, online server, managed by the ICM/DSI, along with pseudnomysed participants’ ID (in accordance with national legal guidelines). A backup system will save the data on a secure local ICM server on a daily basis. These data will then be made available to the responsible PI and his collaborators for analysis purposes.

The personal data that is required for payment will be managed by, and only by, the ICM/PRISME platform, and destroyed as soon as it is deemed redundant or irrelevant (typically: one year after completion of the experiment, to allow for late inquiries). This ensures that test results and questionnaire responses cannot be related with identifying data. Data storage will be GDPR-compliant and will follow national regulatory standards, which ensure that the research is conducted in the interest of voluntary participants to the study.

The results of this study will be presented during conferences and published in peer-reviewed international scientific journals. However, no identifying data will ever be revealed, and the anonymity of the participants will always be respected and preserved. Specifically, the data we collect will be shared and held as follows:

- In publications, the data will be anonymised, so that participants cannot be identified.

- In database repositories, the data will be pseudonymised (the personal details will be removed and only the ID code will be provided, e.g. 00001232).

- **Formalités et autorisations auprès des autorités compétentes**

Our research group has already performed online studies of this sort, in particular: a massive online study of social cognition (see the *BRAiN’US project*: <https://sites.google.com/site/brainusapp/>). This project was classified as ‘non interventional’ by the ‘Comité de Protection des Personnes’ (CPP Ile de France -1). The essential reason for this, which also holds for the current project proposal, was that participants were tested at home, without having to come to the Institute. We expect a similar evaluation for this project proposal.

*Fin du projet scientifique (****10 pages maximum****)*

## 5. Références bibliographiques

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| Anderson, A.K., 2005. Affective Influences on the Attentional Dynamics Supporting Awareness. Journal of Experimental Psychology: General 134, 258–281. https://doi.org/10.1037/0096-3445.134.2.258  Brosch, T., Pourtois, G., Sander, D., 2010. The perception and categorisation of emotional stimuli: A review. Cognition and Emotion 24, 377–400.  Chandler, J., Mueller, P., Paolacci, G., 2014. Nonnaïveté among Amazon Mechanical Turk workers: Consequences and solutions for behavioral researchers. Behavior Research Methods 46, 112–130. https://doi.org/10.3758/s13428-013-0365-7  Crump, M.J.C., McDonnell, J. V., Gureckis, T.M., 2013. Evaluating Amazon’s Mechanical Turk as a Tool for Experimental Behavioral Research. PLoS ONE 8, 57410. https://doi.org/10.1371/journal.pone.0057410  Engelmann, J.B., Pessoa, L., 2007. Motivation sharpens exogenous spatial attention. Emotion 7, 668–674. https://doi.org/10.1037/1528-3542.7.3.668  Fox, E., 2002. Processing emotional facial expressions: The role of anxiety and awareness. Cognitive, Affective, & Behavioral Neuroscience 2, 52–63.  Fox, E., Russo, R., Bowles, R., Dutton, K., 2001. Do threatening stimuli draw or hold visual attention in subclinical anxiety? Journal of Experimental Psychology: General 130, 681–700. https://doi.org/10.1037/0096-3445.130.4.681  Fox, E., Russo, R., Dutton, K., 2002. Attentional bias for threat: Evidence for delayed disengagement from emotional faces. Cognition & Emotion 16, 355–379. https://doi.org/10.1080/02699930143000527  Gross, J.J., 2015. Emotion Regulation: Current Status and Future Prospects. Psychological Inquiry 26, 1–26. https://doi.org/10.1080/1047840X.2014.940781  Koole, S., 2009. The psychology of emotion regulation: An integrative review. Cognition and Emotion 23, 4–41. https://doi.org/10.1080/02699930802619031  Libera, C. Della, Chelazzi, L., 2006. Visual selective attention and the effects of monetary rewards. Psychological Science 17, 222–227. https://doi.org/10.1111/j.1467-9280.2006.01689.x  Ma, D.S., Correll, J., Wittenbrink, B., 2015. The Chicago face database: A free stimulus set of faces and norming data. Behavior Research Methods 47, 1122–1135. https://doi.org/10.3758/s13428-014-0532-5  McHugo, M., Olatunji, B.O., Zald, D.H., 2013. The emotional attentional blink: what we know so far. Frontiers in Human Neuroscience 7, 1–9. https://doi.org/10.3389/fnhum.2013.00151  McRae, K., Hughes, B., Chopra, S., Gabrieli, J.D.E., Gross, J.J., Ochsner, K.N., 2010. The Neural Bases of Distraction and Reappraisal. Journal of Cognitive Neuroscience 22, 248–262. https://doi.org/10.1162/jocn.2009.21243  Morawetz, C., Bode, S., Derntl, B., Heekeren, H.R., 2017. The effect of strategies, goals and stimulus material on the neural mechanisms of emotion regulation: A meta-analysis of fMRI studies. Neuroscience & Biobehavioral Reviews 72, 111–128. https://doi.org/10.1016/j.neubiorev.2016.11.014  Ochsner, K.N., Gross, J.J., 2005. The cognitive control of emotion. Trends in Cognitive Sciences 9, 242–249. https://doi.org/10.1016/j.tics.2005.03.010  Öhman, A., Flykt, A., Esteves, F., 2001. Emotion drives attention: Detecting the snake in the grass. Journal of Experimental Psychology: General 130, 466–478. https://doi.org/10.1037/0096-3445.130.3.466  Oppenheimer, D.M., Meyvis, T., Davidenko, N., 2009. Instructional manipulation checks: Detecting satisficing to increase statistical power. Journal of Experimental Social Psychology 45, 867–872. https://doi.org/10.1016/j.jesp.2009.03.009  Pessoa, L., 2009. How do emotion and motivation direct executive control? Trends in Cognitive Sciences 13, 160–166. https://doi.org/10.1016/j.tics.2009.01.006  Pessoa, L., Engelmann, J.B., 2010. Embedding reward signals into perception and cognition. Frontiers in Neuroscience 4. https://doi.org/10.3389/fnins.2010.00017  Richards, A., Blanchette, I., 2004. Independent Manipulation of Emotion in an Emotional Stroop Task Using Classical Conditioning. Emotion 4, 275–281. https://doi.org/10.1037/1528-3542.4.3.275  Sprouse, J., 2011. A validation of Amazon Mechanical Turk for the collection of acceptability judgments in linguistic theory. Behavior Research Methods 43, 155–167. https://doi.org/10.3758/s13428-010-0039-7  Vuilleumier, P., Armony, J.L., Driver, J., Dolan, R.J., 2001. Effects of attention and emotion on face processing in the human brain: an Event-related fMRI study. Neuron 30, 829–841.  Webb, T.L., Miles, E., Sheeran, P., 2012. Dealing with feeling: A meta-analysis of the effectiveness of strategies derived from the process model of emotion regulation. Psychological Bulletin 138, 775–808. https://doi.org/10.1037/a0027600 |

## 6. Information aux participants et recueil du consentement

*(Le CER est particulièrement attentif à la qualité de l’information fournie aux participants et aux conditions de recueil du consentement ; le langage des lettres d’information doit être adapté aux participants [âge, langue, niveau cognitif], et l’information donnée doit être exhaustive [cadre de la recherche, hypothèses qui la fondent, protocole, etc.])*

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| Lettre(s) d’information *(Prévoir une lettre différente pour des groupes différents de participants ; ne pas oublier le droit au refus, le droit au retrait sans justification, le droit d’accès aux résultats globaux ainsi que l’adresse mail ou le numéro de téléphone permettant de les obtenir). Lien vers recommandations et modèles* |
| Formulaire(s) de consentement *(Fournir un consentement différent pour chaque groupe différent) Lien vers recommandations et modèles* |

## 7. CV courts pour le chercheur ou enseignant chercheur correspondant, le chercheur ou enseignant chercheur responsable, et toutes les personnes en relation avec les participants (moins de 2 pages)

|  |  |
| --- | --- |
| Chercheur ou enseignant-chercheur correspondant | Juliana Sporrer  Education  **Dual MSc in Brain and Mind Sciences**  Sorbonne University & Ecole Normale Superieure (FR)  2019 – 2020  **Dual MSc in Brain and Mind Sciences (Distinction)**  University College London, Institute of Neurology (UK)  2018 – 2019  **BSc in Clinical Psychology (Honours)**  ERASMUS: University of Kent (UK)  2017 – 2018  University Clermont Auvergne (FR)  2015 – 2018  Lab experience  **Computational Unit in Motivation, Brain, Behavior Lab**  *ICM, Brain and Spine Institute (FR)*  2019 – 2020. MSc project “The effect of motivation on the regulation of emotional attention” under the supervision of Dr. Jean Daunizeau  **Rutledge Lab, Max Planck UCL Centre for Computational Psychiatry**  **Metalab, Wellcome Centre for Human Neuroimaging**  *University College London (UK)*  2018 – 2019. MSc project “The effect of mood on confidence in decision-making” under the supervision of Dr. Marion Rouault, Dr. Stephen Fleming, Dr. Matilde Vaghi and Dr. Robb Rutledge  **Samandouras Lab, National Hospital of Neurology and Neurosurgery**  *University College London Hospital (UK)*  2018 – 2019. Research assistant on variations of intraoperative language testing in awake craniotomies under the supervision of Mr. George Samandouras and Dr. Matthew Kirkman  **Javadi Lab, Cognitive Enhancement Lab**  *University of Kent (UK)*  2017 – 2018 Research assistant on “The modulatory effect of oscillatory reinstatement using tACS, during sleep phases on memory consolidation for verbal stimuli” with Dr. Amir Javadi |
| Chercheur ou enseignant chercheur responsable | Jean Daunizeau  I am currently both a research group leader at [*ICM*](about:blank) ([*MBB team*](about:blank), Paris, France) and an honorary fellow at [*ETH*](about:blank) ([*TNU unit*](about:blank), Zurich, Switzerland). Since June 2013, I hold a tenured position (CR1 or associate professor) at [***INSERM***](about:blank), France.  Academic Achievements  My field of expertise is **computational neuroscience**. I am regularly lecturing on related topics in highly selective graduate programs (e.g., [*cogmaster, ENS*](about:blank), Paris, France) and in yearly international training courses (e.g., [SPM course, London, UK](about:blank), or [*computational psychiatry course,* Zurich, Switzerland](about:blank)), some of which I organized (e.g., [DCM course, Paris, France](about:blank)).  I have **co-authored more than 70 original articles** in peer-reviewed international journals, which have been cited about 9900 times (**H-index = 51** ; see my [Google Scholar profile](about:blank) for more information).  I am (or have been) a member of the Editorial Board of a few international academic journals, including: [*Neuroimage*](about:blank), [*PLoS Computational Biology*](about:blank), [*PLoS ONE*](about:blank), [*Frontiers in evolutionary psychology and neuroscience*](about:blank), [*Frontiers in brain imaging methods*](about:blank), [*Frontiers in perception science*](about:blank).  Academic Training  From 2002 to 2005, I was a doctoral student both at the [*Medical Imaging Research Unit*](about:blank) (Paris, France) and at the [*Mathematics Research Centre*](about:blank) (Montréal, Canada).  From 2006 to 2009, I performed a first post-doctoral training at the [*Wellcome Trust Centre for Neuroimaging*](about:blank) (FIL, UCL, London, UK), under the supervision of Pr. Karl J. Friston.  From 2009 to 2012, I performed a second post-doctoral training at the [*Laboratory for Social and Neural Systems Research*](about:blank) (Dpt. Of Economics, UZH, Zurich, Switzerland), under the supervision of Pr. Klaas E. Stephan.  Academic Degrees   |  |  | | --- | --- | | 2016 | **BSc in psychology**  *Université Paris V (Paris, France)* | | 2013 | **Habilitation** (HDR) **in computational neuroscience**  *Université Paris VI (Paris, France)* | | 2005 | **PhD in physics**  *Université de Montréal (Montréal, Canada)* | | 2005 | **PhD in medical imaging**  *Université Paris XI (Paris, France)* | |
| Personne(s) supplémentaire(s) en relation avec les participants | N/A |

1. **Conflits d’intérêts** *(mettre « X » dans la case lorsque vous êtes concerné)*

La recherche comporte un risque de conflits d’intérêts entre les participants et les expérimentateurs (enseignants – enseignés, directeur - dirigé, relation d’autorité, etc.)

La recherche utilise un matériel fourni par une association/entreprise dans laquelle vous avez un intérêt

Vous êtes liés professionnellement avec l’un des membres du CER

Autre (préciser)

1. **Date de soumission de la demande d’avis éthique XX/04/2020**

## 10. Utilisation éventuelle du dossier par le CER

Êtes-vous d’accord pour que votre dossier, anonymisé dans la mesure du possible, soit présenté dans le cadre de la fédération des CER pour améliorer la qualification des dossiers (ou éventuellement pour une expertise supplémentaire) ? *(rayer la mention inutile)*

Oui ~~Non~~

**11. Protocole soumis par :**

Nom……………SPORRER …………Prénom………Juliana……………..

A close up of a logo

Description automatically generatedSignature du chercheur ou enseignant-chercheur responsable du projet *(en signant ici, le responsable reconnaît avoir relu l’ensemble du dossier, et se porte garant de la qualité de la rédaction).*

|  |  |
| --- | --- |
| Êtes-vous sûr de n’avoir rien oublié ? | Envoyer à cer@parisdescartes.fr (plus tard à cer@u-paris.fr) |

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