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STUDIES
ON HUMAN
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The Centre for Studies on Human Stress is dedicated to improving the physical and mental health of individuals by empowering them with scientifically grounded information about the effects of stress on the brain and body.



How to Hunt a Mammoth Without Getting Trampled?

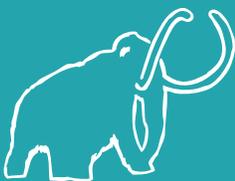
Editorial

By **Catherine Raymond**, doctorate student and editor in chief of the **Mammoth Magazine**

When the time comes to manage our daily stress, we often don't know where to start (and this, even when working in the field... Take our word for it!). According to the media, there's an array of miracle cures that exist in order to definitely get rid of stress in our lives... Coloring books for adults, yoga, relaxation retreats, reading miracle recipes, and much more. Unfortunately, that's not the case. Indeed, remain wary towards any technique that claims to be "anti-stress" or that promises to get rid of the mammoth for you. In fact, as we've mentioned in previous editions of the magazine, stress is our best friend when it's time to... stay alive. Thus, the idea is not to completely get rid of stress, but instead learn to make it an ally and even – for the courageous ones – to appreciate it. However,

in order to do so, we must find techniques that are suitable for our personality. One thing is certain; chasing the mammoth is not something that can be done without effort!

Since the creation of the **Mammoth Magazine**, we have addressed many subjects pertaining to the causes and consequences of stress. In this 16th edition, we will attempt to provide you with indications on numerous methods that have (or have not) been scientifically proven to reduce the stress response, such as that measured by hormones (cortisol). The goal is thus to provide you with tools that could help you hunt the mammoth on a daily basis. As you will read these lines, it is however vital that you keep in mind the following: no technique works for everyone and/or in every context! As with any field (whether it be sports, music, cooking, arts or others), important individual differences



exist. Thus, even if yoga greatly helps your neighbour and coloring books for adults is the way to go for your sister in law, it doesn't mean that these will work for you. The idea here is to try multiple techniques, to retain the ones that work for you... and to get rid of those that don't work for you. Furthermore, we must remember an important thing... the mammoth will not hunt itself. That is, in order to succeed in managing your stress, you must invest time and energy.

In the first article of this edition, Sonia Lupien, director of the Center for studies on human stress and associate editor of the **Mammoth Magazine**, reminds us what physiological stress is. She will then explain how we can “decompress” by convincing our brain that the situation at hand is not as stressful as it seems!

In a second article, **Danie Majeur**, holder of a bachelor's degree in neurosciences from the University of Montreal, describes some alternative vogue methods to manage stress, such as yoga, mindfulness as well as Tai-chi and Qi Gong. In this article, she explains in detail the scientific evidences of these techniques in stress reduction as well as the individual differences found at that level.

In a third article, **Sarah Leclair**, holder of a bachelor's degree in biomedical sciences from the University of Montreal and master's student in neurosciences at the University of Montreal, describes the impact of music on stress. Can music reduce stress? If so, can any type of music do so?

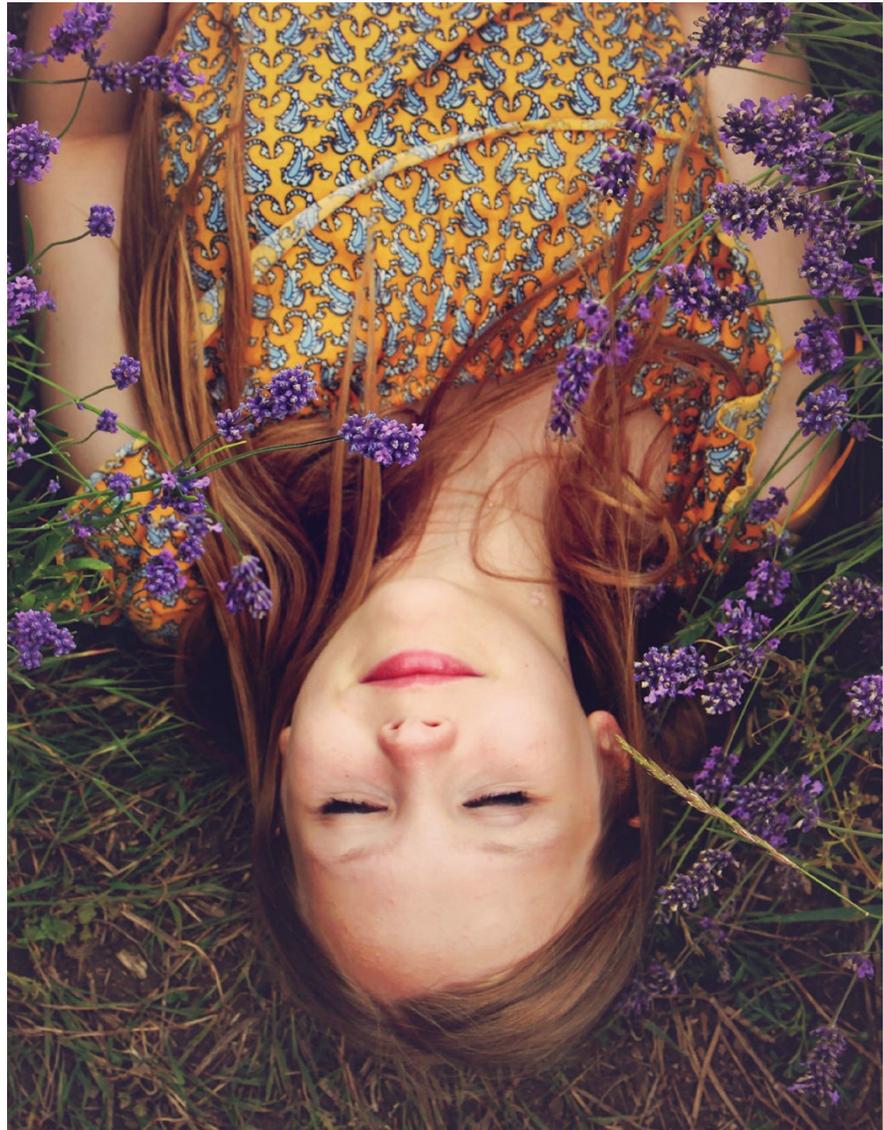
In a fourth article, **Catherine Raymond**, holder of bachelor's degree in psychology and doctorate student in neurosciences at the University of Montreal, discusses self-help books (“psycho-pop” books) and provides us with detailed explanations on the scientific knowledge we have up to now with regards to them. She finishes off by suggesting some scientifically founded books and writings by health professionals or researchers.

In a fifth article, **Catherine Raymond** performs a “Clinician's profile” and details an interview she carried out with the help of D^r Christine Grou, clinical psychologist and director of the college of psychologists of Quebec. This article addresses the resolution of problems generating daily stress by means of a somewhat taboo technique... psychotherapy.

Natalie Wan, research coordinator at the CSHS, then offers us a tool box of scientifically validated methods capable of reducing stress hormones, and finally, Catherine Raymond offers a small guide in order to help you find a psychologist online on the website of the college of psychologists

of Quebec. A list of resources not to be neglected in order to manage our stress is also presented at the end of this edition of the **Mammoth Magazine**.

On that note, we hope you will be able to find, in this edition, a method or two that will help you hunt the mammoth and come out alive... Good reading! 🐾





Deconstructing and Reconstructing Stress

By **Sonia Lupien**, Ph.D. director of the Center for studies on human stress and associate editor of the **Mammoth Magazine**

It's now been 6 months that you and Michelle are having a conflict at work. Every time you see her at the coffee machine your heart races, you breathe faster and your muscles tighten. With time, you've developed digestion problems, and lose your patience with your colleagues and kids at home more often than before. You have a mammoth in your life! And if you don't hunt it, this mammoth will get the best of you. Stomach aches and spontaneous rages will increase as time goes by. You have to act. But what can you do?

As mentioned in previous editions of the **Mammoth Magazine**, when our brain detects a threat, it activates the physiological stress response which leads to the production of stress hormones. These hormones first act on our body in order to allow us to mobilize the energy needed to fight the threat at hand. Thereafter,

they will act on our brain to help us remember this threat for future reference. That's how our ancestors survived the mammoth era! However, when this response becomes chronic, these same stress hormones have detrimental effects on our physical and mental health.

The opposite of stress isn't relaxation.

Scientific research has shown that 4 characteristics are present in a situation leading to a high production of stress hormones. These 4 characteristics are additive, that is, a given situation doesn't necessarily need to contain all 4 characteristics in order to induce a stress response. In order for a stress response to be generated by our body, we must have the impression that the situation is new (**N**ovelty) and/or unpredictable (**U**npredictability) and our ego (personality) must feel threatened (**T**hreat to ego). Furthermore, we must have the impression that we have no control on the given situation (**S**ense

of control). In order to remember this 'stress recipe', we've come up with an acronym "stress is **NUTS!**". Every time you're faced with a situation containing one or more of these characteristic, you undergo a physiological stress response.

How do we "destress"? In stress science, "destress" means to 'reduce the concentration of stress hormones'. To this day, different methods have shown their efficiency in reducing levels of stress hormones and this special edition of the **Mammoth Magazine** presents you with some of them. One of these methods is intellectual, that is, it requires you to work on the mammoth in order to get rid of it. Thus, we can reduce a stress response by deconstructing a stressful situation into NUTS. A situation stresses you out? First, ask yourself why. Is it because it's new, unpredictable, threatening to your ego or are you under the impression that you have no control over it. Once you have "deconstructed" the situation into NUTS, you can then reconstruct it. You have to ask yourself: "how can I make it so that this situation is less unpredictable, threatening to my ego etc." By doing so, you will increase your sense of control over the situation which will send a message to your brain to cease producing high levels of stress hormones.

An example: A mammoth in the work place

A person stresses you out at work and you won't stop telling your partner at home every week night. When night time comes around, the simple thought of this person keeps you awake. There's your mammoth. Now, let's deconstruct it. Why does this person stress you out so much? Are they new? No. Are they unpredictable? No. Do they threaten your ego? Yes. Do they put you under the impression that you have no control over the situation? Yes. You've just deconstructed your stress. You now know that this person stresses you

out since they threaten your ego and make you feel as if you have no control over the situation. You've just discovered the origin of your stressor. Because they threaten your ego and give you the impression that you have no control over the situation, this person is detected by your brain as a threat, and you produce stress

The opposite of stress is resilience. Resilience is the ability to have a plan B, a plan C, a plan D etc., in order to face the situation that stresses you out.

Thus, this person stresses you out since they threaten your ego and give you the impression that you

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hormones every time you interact with this person. That's nice and all, but what do we do afterwards?

We reconstruct the stressor. The opposite of stress isn't relaxation. It's not by going to a spa this weekend that this person won't be at the coffee machine Monday morning, just waiting to threaten your ego!

don't control the situation. Very well. What can I do for them to be less threatening to my ego? Plan B: I dismiss them. *Mmh.* Not a very good idea since I have no one to replace them. Plan C: I meet up with them to discuss our conflict and attempt to fix it. *Mmh.* That could work but I'm not sure. Plan D: I avoid them and I don't get my usual coffee on

Monday morning. Plan E: I get involved with other group members and don't spend time with the person who stresses me out. Plan F, plan G, plan H... What can I do to have the impression that I control the situation? Plan B: I take the promotion that was offered to me and become their boss. *Mmh.* Interesting but do I have other plans? And we'd continue like this until we're under the impression that we control this situation.

Know one thing. 85% of people will never put their plans B, C, D etc. into action. However, the mere fact of having these alternative plans when faced with a stressor makes it so that our brain doesn't detect this situation (or person) as a threat and consequently produces less stress hormones. And that's exactly what we're trying to accomplish when we want to stop suffering from stress.

Mammoth hunting season is now open... Have fun! 🐾



Yoga, Meditation & More to Destress: Yes, BUT...

By Danie Majeur, B.Sc.

There are many methods to help us deal with daily stress. In fact, alternative methods such as yoga, mindfulness and tai-chi have repeatedly been shown to reduce stress. But... can they really? And mainly... do they work for everyone?

Yoga

Whether it is via our network or through the media, we have probably

all heard of the term yoga. Yoga is an ancient Hindu practice. Different types of yoga distinguish themselves through the use of different body poses and respiration techniques.

This method has known a growing popularity in the past years, bringing about a rising interest in the scientific community. In terms of its effects on stress, studies show that yoga leads to an average reduction in perceived stress (i.e. our impression of the

stress we are undergoing), anxiety, and depression symptoms by 39%. A study performed amongst 24 women aged 26 to 51 has shown that the mere fact of undergoing a 12 week yoga program leads to reduced levels of stress hormones, measured before and after a 90 minute yoga session. Another study performed on 75 women with breast cancer has shown a decrease in stress hormone concentrations in women who practiced yoga as opposed to women who didn't practice yoga. However, it's important to take note that many studies haven't found changes in levels of stress hormones following a yoga session. Thus, results on this subject are rather divergent!

In order to explain how yoga can lead to a reduction in stress hormones, many physiological and psychological mechanisms have been put forward. For example, psychologically, it was suggested that yoga helps us adopt more efficient coping strategies, which would lead

to a reduction in the stress levels we perceive. Physiologically, it was suggested that nitrous oxide, a molecule secreted during yoga poses allows for a reduction in the levels of stress hormones.

However, it's important to keep in mind that we are all different and consequently, yoga could reduce stress in a person but increase it in another. Studies pertaining to the effects of yoga on stress contain various population types (students, breast cancer patients, yoga instructors, individuals diagnosed with an anxious disorder, etc.), which makes it very difficult to generalize the results of such. Furthermore, studies linking stress and yoga often

your life. In order to practice mindfulness, you must pay attention to the present moment and to the interaction between your body and its environment (i.e. take conscience of the sensation of your shirt against your skin, your feet touching the ground, your thoughts flying by or even your eyes who are reading these very words!). And there you go; you are now in a state of mindfulness!

Mindfulness is a rather simple practice which gained popularity amongst North-American societies in the last two decades thanks to its beneficial effects on health. It was shown that the practice of mindfulness in individuals with anxious disorders reduces symp-

However, it's important to keep in mind that we are all different and consequently, yoga could reduce stress in a person but increase it in another.

have many limitations such as small sample sizes, high standard deviations (subject differences), absence of control groups as well as different yoga program durations. Thus, it only goes to show that yoga isn't a miracle cure to manage stress, but rather a method amongst many others.

Mindfulness

Another rather recent vogue practice is meditation, or in other words "mindfulness". Mindfulness refers to our ability to concentrate on the present. This technique comes from the principle that following constant non aversive stimulation of one of our senses (for example, touch), our brain ceases to treat the information from this stimulus, which makes us insensitive to the latter. Mindfulness thus consists of becoming conscious once again of the stimuli our brain has ceased to treat. Let's take an example: at this very moment, you probably don't feel your shirt rubbing against your skin given that your brain has ceased to treat this constant stimulus which holds no danger for

toms of anxiety as well as depressive symptoms associated with anxiety. Furthermore, studies show that the practice of mindfulness improves the management of daily distress. In fact, it was shown that this practice improves health state and facilitates emotional treatment of information surrounding us. For example, it was shown in a study that following the presentation of a stressful movie, practicing mindfulness decreased reactive physiology and facilitated the return to a basal emotional state.

Studies also show a non-specific decrease in the levels of perceived stress in individuals practicing mindfulness; that is, this reduction is similar to that observed with other relaxation methods. As for stress hormones, some studies show that practicing mindfulness reduces levels of stress hormones that we secrete in reaction to a stressful situation.

Thus, it's possible to assert that the practice of mindfulness is a very interesting method, by its simplicity and

efficiency to reduce stress. However, once again, it doesn't mean that this will work for everyone! That's exactly why many more methods to manage our stress exist.

Tai-chi and Qi gong

Tai-chi and Qi gong are both low intensity Chinese aerobic exercises. Both methods are similar and consist of moving our body using fluent movements accompanied by respiration, concentration, coordination and relaxation techniques.

Scientific literature suggests that Tai-chi and Qi gong are both useful in stress reduction. Minimally practicing Tai-chi during the week (about 2 hours per week) was associated with diminished perceived stress levels in adults and elders. Furthermore, some studies show that the practice of Tai-chi reduces stress hormone levels secreted throughout the day in healthy adults.

Of course, just like yoga and mindfulness, Tai-chi isn't a universal method in stress reduction. Although Tai-chi has been around for quite some time, studies pertaining to its effects on stress are recent and few in number.

Which method should I use?

Although the efficiency of yoga, mindfulness, Tai-chi and Qi gong in stress reduction has been shown in certain populations, it is important to keep in mind that these methods don't always work, and they don't work for everyone. Thus, there isn't a miracle solution! We are all unique individuals and so different methods will have different effects on each and every one of us. Finally, although these techniques help us relax when faced with a mammoth, the fact remains that the beast is still alive! It is thus essential to face our stressors in order to get rid of them. But we can only do so after having rested our mind and once we're ready for battle! 🐘



Music to Reduce Stress

By Sarah Leclaire, Masters student

Music occupies a central place in our lives. We hear it when we go to the grocery store, to the mall, in the elevator, in a spa and even on the phone when we're put on hold! But why is music so omnipresent in our lives? Science shows that, consciously or not, the main reason that motivates us to listen to music is that it allows us to modulate our state of mind. In fact, which one of us hasn't felt shivers when listening to a song or hasn't felt the need to dance to a rhythmic song? These physiological effects lead on by music have inspired research in the field of neurosciences. In the present article, we will particularly pay attention to music's ability to modulate stress.

Many studies have measured if music leads to modulation in stress hormones present in the blood stream. Most of these studies have shown that the genre of music we listen to is important when it comes to stress reduction. In fact, it would seem that "relaxing" music is more beneficial than other genres of music in terms of stress reduction. For this purpose, it's important to identify what the main characteristics of relaxing music are according to scientific literature: a slow and stable tempo, a low volume, an absence of accentuated or percussive rhythm, a

soft tone, and a progression of harmonies and simple chords. Hence, it was shown that listening to this genre of music increases the speed at which stress hormones dissipates in the blood stream following a stressor. And so, it would seem that music can help us return to a basal level more rapidly following a stressful situation. Another study has also shown that listening to music at the

[...] as opposed to relaxing music, techno, rock or heavy metal music genres lead to an increase – and not a decrease – in stress hormones.

exact time where a stress is induced leads to a smaller increase in stress hormones in reaction to said stressor. What's particular about this study is that the researchers have found that the mere fact of listening to music, whatever the genre may be, reduced levels of stress hormones. However it's to be noted that in general, scientific literature doesn't agree on this aspect. In fact, some researchers have shown that, as opposed to relaxing music, techno, rock or heavy metal music genres lead to an increase – and not a decrease – in stress hormones. Moreover, these genres of music are often found in violent

video games that have been found to increase stress hormones. In fact, a study questioned whether video game soundtrack- independently of the game itself- was the cause of the increased stress hormones found in players. By comparing a group of people playing video games without soundtrack and a group of people playing with sound, researchers have shown that it isn't the act of playing video games that increased stress hormones but rather the music and noise found in these games!

But what explains the differences in stress hormone modulation in different music genres? In order to explain this phenomenon, we must first understand the mechanism by which music comes to modulate our mental state. First of all, we must know that the human body has the capacity to synchronize its internal and external environments. In other words, the body synchronizes the waves created by music (external environment) with the electrical waves of the brain (internal environment). This combination corresponds to what we refer to as cerebral activity, which we can further study

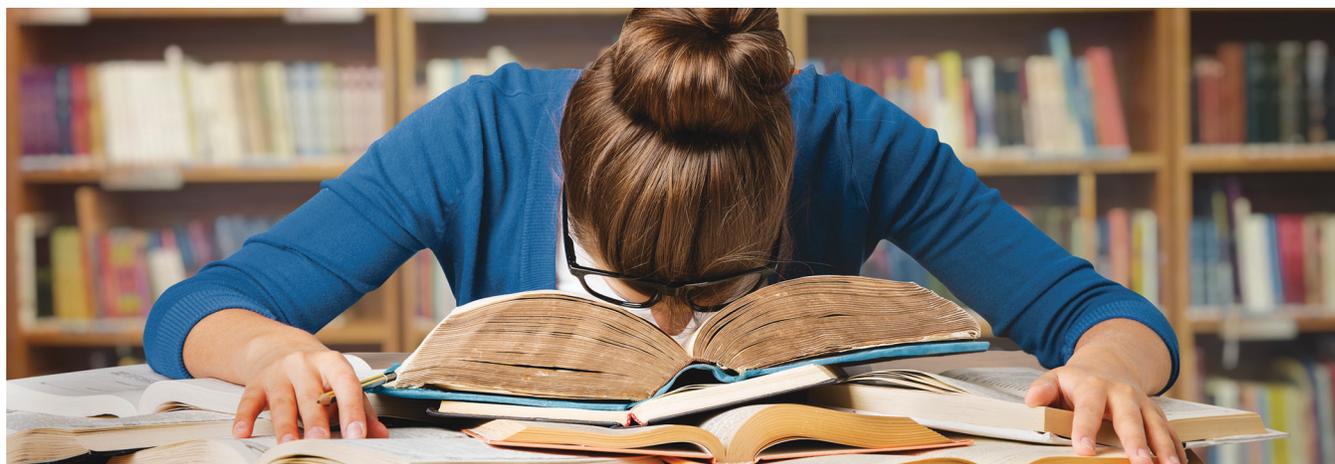
with the help of an electroencephalogram (EEG: in neurosciences, this technique consists of measuring the electrical activity of the brain with the help of sensors placed on the subjects' head). With the help of the EEG, it was shown that music modulates cerebral activity. Music thus has a direct impact on our brain! Second of all, the neuronal tract that sound undertakes, starting from the moment it is perceived by the ear up until it is decoded by the brain, is connected with the limbic system which consists of a cluster of cerebral structures responsible in the onset of emotions. What we must also know is that the limbic system is a great ally for the stress system. In fact, when the limbic system is activated, cerebral structures responsible for the stress response are also activated. Hence, when the music tempo is high (for example in techno music) neurons of the limbic system increase their activity. Consequently, given the connection between the two structures, the stress system also gets activated, leading to the secretion of

stress hormones. The opposite is also true for slower tempos which have a relaxing effect.

That being said, emerging scientific literature mention an interesting fact... It would seem that personality differences (and thus musical preferences) are also determining factors in the modulation of stress by music. In fact, by comparing two groups of participants listening to relaxing music, one having chosen the music themselves and the other listening to it by obligation, it was possible to conclude that when relaxing music was chosen, it was more efficient in reducing stress. This could be explained by the sense of control felt towards the environment. Therefore, it would seem that for relaxing music to reduce our stress, we have to have chosen it ourselves!

In short, there is no miracle music against stress. Once again, all of this is on a case by case basis. However, the emphasis is to be put on the fact that many studies have shown a

modulating effect of music on stress and that listening to such in stressful situations is not to be neglected... especially if you're a fanatic of relaxing music! 🎧



“Psycho-pop” in favor of mental health

By Catherine Raymond, Doctorate student

Walking around most bookstores, one often comes to the conclusion that popular psychology books, referred to as self-help books sell! Whether it be to motivate

you to exercise, to help you find love, to reduce your aggressivity, to increase your ability to communicate or to “get rid of stress in your life”, it seems that certain authors have found a magic recipe for all! Of course, most of these books won't

change your life, they won't make you skinny again (unless you find the motivation yourself!) and most of all... they will never definitely get rid of the mammoths in your environment! In fact, science shows that the consumption of self-help books in the previous months predicts the purchase of a second one. However, if the first book bought had changed your life, you wouldn't have to buy another one! Furthermore, some

clinicians mention that the majority of patients to whom a book is recommended won't even read it half-way before asking for another suggested title. It is thus hardly surprising that the self-help book industry is excessively lucrative in North America. The most recent statistic on this aspect in fact reports that 12 billion dollars per year are generated thanks to this market.

At the Center for studies on human stress we have searched to find out what motivates individuals

[...] is it the reading of self-help books that increased stress reactivity and depressive symptomatology in readers or are these people more sensitive to stressful situations which makes them more susceptible to consume self-help books?

to consume self-help books. Hence, in a pilot study, we have measured certain variables in consumers and non-consumers of self-help books in order to find out what distinguished the two. We have thus recruited 15 consumers and 15 non-consumers of self-help books and have compared these two groups based on the following factors: stress hormone concentrations produced by the individual in response to a laboratory stressor as well as depressive symptomatology, personality traits and self-esteem. The group of self-help book consumers was itself divided into two groups of readers: a group that preferred books that were problem oriented (also referred to as "victimisation" books; for example: Why is it always your fault? Or even How can I forgive you?: The courage to forgive, the liberty not to do it) and another group who preferred books on self-actualisation (also referred to as "empowerment" books; for example: You are stronger than you believe or even How to stop worrying and start living). Results of our study show that problem oriented book

consumers have more depressive symptoms than non-consumers. Moreover, participants who read self-actualisation books have greater stress reactivity than non-consumers. However, contrary to what we could have expected, no difference was noted in terms of personality traits or self-esteem between self-help book consumers and people who don't consume these.

Now, is it the egg or the chicken that can explain these results? That is, is it the reading of self-help books

that increased stress reactivity and depressive symptomatology in readers or are these people more sensitive to stressful situations which makes them more susceptible to consume self-help books? We still don't have the answer to this question and in order to answer it, we must further our studies in the field.

[...] 12 billion dollars per year are generated thanks to this market.

For now, all we can confirm is that consumers of different types of self-help books seem to be different in terms of depressive symptomatology and stress when compared to non-consumers.

Now, do these results imply that we should stop reading self-help books? Not at all! In fact, there are numerous works written by health professionals and scientists that deserve to be read if you're curious on a problem, or if you feel the need to receive advice. Here is a list of some self-help books

that we've validated amongst our peers in the scientific community:

- **Alcoholism:**
 - "Pour en finir avec l'alcoolisme", Philippe Batel, Psychiatrist (French only)
 - "Avec les alcooliques anonymes", Joseph Kessel (French only)
- **Anxiety:** "La peur d'avoir peur", André Marchand, Ph.D (French only)
- **Burnout:** "Travailler sans y laisser sa peau", Abel P. Emond, Ph.D (French only)
- **Depression:** "La dépression, comment en sortir", Christine Mirabel Sarron, Dre (French only)
- **Stress:** "Well Stressed: Manage Stress Before It Turns Toxic", Sonia Lupien, Ph.D
- **Suicide:** "How I stayed alive when my brain was trying to kill me", Susan Rose

However, it's important to take note that a self-help book will never replace an appropriate medical help. In certain situations, it is preferable to consult a health professional. We have in fact interviewed a psychologist in order to learn about the ways by which they are able to reduce

distress in their patients. You can find out everything on this interview in the following article! [📖](#)





How to Climb the Everest ?

Interview with a clinical psychologist D^r Christine Grou, president of the professional college of psychologists of Quebec

By Catherine Raymond, Doctorate student

Everyone goes through an extremely stressful period at least once in their life... Having the impression to lose balance and have no control. When juggling with this type of problem, many techniques, qualified as “anti-stress” are offered in the media: yoga, meditation, relaxation, coloring and much more. In this edition of the **Mammoth Magazine**, we have presented the efficiency of some of them... and as you’ve noticed, no technique is universal! Instead, we must try some based on our preferences and our personality. It is however possible that, even after many attempts, we have difficulty getting on by ourselves... In order to get back up, some of us will turn towards a technique which is often less presented in the media: psych psychotherapy. In Quebec, there are more than 6000 psychologists offering therapeutic services and who, every year, meet a dozen patients presenting a problematic causing them stress that they are unable to defeat themselves. D^r Christine Grou, who we’ve met in an interview for this article is one of them.

D^r Grou is the president of the college of psychologists of Quebec. Holder of a doctorate degree in psychology from the University of Montreal, she possesses a training in neuropsychology and also performs follow ups in clinical psychology. For nearly 30 years she meets with numerous patients suffering from a range of disorders linked or not to stress. She meets with patients presenting a concussion, just like she meets with

“In extremely stressful life contexts, when we’re under the impression that we don’t possess the means to regain control, it isn’t relaxation, yoga or meditation that will reduce our source of stress.”

Alzheimer’s patients, anxiety disorder and depressive patients, or even “Mr. and Mrs. Smith” who, just like you and me, sometimes have difficulty managing their stress lead on by a problematic that seem insurmountable. “In extremely stressful life contexts, when we’re under the impression that we don’t possess the means to regain control, it isn’t relaxation, yoga or meditation that

will reduce our source of stress. However, they could help us relax... But relaxation won’t erase the problematic with which we’re dealing!” confides D^r Grou. In order to regain control, we must change our interpretation of the situation and sometimes even modify certain behaviours that are well anchored in our daily lives. When we feel as if we don’t possess the necessary means to get by, consulting a psychologist is not to be neglected.

Patients rarely present themselves at a clinic stipulating that they have problems managing their daily stress. Rather, they will claim to have trouble sleeping, concentration or performance problems, difficulty managing their emotions... Which are all known consequences of stress! The stress symptoms felt by an individual are often the consequence of a problematic or a situation that exceeds their ability to cope. Hence, in psychotherapy, we rarely directly address the phenomenon of stress reduction, but rather the problematic that leads to the psychological distress symptoms. “The objective of psychotherapy is to show the person sitting in front of us that they have much more control over the situation than they believe they have and that the events taking place in

life are sometimes not as unpredictable as they seem. What we want to do is provide the person with the necessary tools to deal with the problem at hand.” explains D^r Grou. That being said, by dealing with the cause that’s at the origin of the discomfort, we are often confronted with a difficult reality to accept: we must change certain behaviours we have taken on in order to feel better. ►

According to D^r Grou, this step often leads to suffering: “At the beginning of a psychotherapy, it’s very difficult! Before one can feel better, we often notice a period where angst increases because one must get out of their comfort zone even if this “comfort” is often unsuitable. Following a psychotherapy is somewhat like climbing the Everest... we climb up 100 meters, we get used to the lack of oxygen, and then we climb down 100 meters before climbing back up again, and so on until we feel at ease with this new plateau... The therapeutic process is the same thing... we climb up the slope uncomfortably, we get used to the discomfort, and sometimes we have to climb back down and so on, until we reach a new plateau. This analogy illustrates the fact that it’s not because we’re climbing down that we’re regressing... on the contrary, we climb down to be able to climb back up more easily!”.

When it comes to this matter, D^r Grou is affirmative: she truly sees a decrease in the majority of her patient’s distress. In order to do so, a patient-therapist relationship is extremely important. But how do you choose a good psychologist? First of all, one must know that there are numerous approaches in clinical

psychology: we find psychodynamic psychotherapy, the humanistic approach, cognitive-behavioural psychotherapy (of first, second or third wave), etc... A growing number of psychologists adopt what we refer to as an integrative approach by

no particular connection is formed between patient-therapist, chances are it will never be there! And the way we feel in psychotherapy is very important...” Thus, don’t hesitate to “try” many psychologists before choosing the one for you!

Following a psychotherapy is somewhat like climbing the Everest... we climb up 100 meters, we get used to the lack of oxygen, and then we climb down 100 meters before climbing back up again, and so on until we feel at ease with this new plateau...

combining a number of these theories in their practice. Thus, it’s normal to “shop” for a psychologist before finding the right one for you, mentions D^r Grou. To that effect, D^r Grou suggests contacting three to four psychologists when first searching one to start a therapeutic process with. “Already with the first call you’ll have a first impression of the interaction you’ll have with that psychologist. If after two to three meetings

To conclude, D^r Grou reminds us that even if it’s completely normal to feel stress as well as negative emotions at times, it doesn’t mean that we have to tolerate them for a long time. Psychotherapy is thus a very good tool to help us surpass difficult periods that seem as insurmountable as the Mount Everest. 🧭





Tool Box

By **Nathalie Wan**, research coordinator at the Center for studies on human stress

Laughter

Laughter is the best medicine and protects us from the damaging effects of stress. Researchers have discovered this by studying excessive laughter in people. Laughter triggers the release of endorphins (often known as “happy hormones”) and decreases stress hormones. So when you feel stressed, hang out with friends who make you laugh, watch a funny movie or go to a comedy show!

Breathe

Abdominal breathing acts as a deterrent on our stress system. In fact, movements made by the diaphragm are responsible for interrupting your body’s reaction to stress. As soon as you recognize the symptoms of stress, take the time to breathe deeply, inhaling and exhaling. You will notice that the effect on stress is immediate. Try this before an important meeting at work. Other ways to reduce stress through abdominal breathing is to practice yoga or sing. Join a yoga class or simply turn on the music and sing!

Cuddling a pet

Interacting with animals can have beneficial effects on stress. Scientific studies have shown that petting a dog reduces a human’s heart rate and stress hormone levels. In stressful



times, don’t hesitate to cuddle your own pet or animals at your local animal shelter.

Acts of kindness

In 1988, a Harvard researcher named David McClelland conducted a study involving students watching one video depicting Mother Teresa caring for children in Calcutta and other videos, which were strictly neutral. One hour after the viewing, it was observed that the immune system of the students who had watched Mother Teresa helping children continued to improve. The body’s immune system is associated with stress, and any act of kindness or being witness to a heroic deed increases the body’s ability to de-stress. Some scientists have called this the Mother Teresa effect. See for yourself! Lend a helping hand or become a volunteer!

Social support

Talk about your stress... That’s right, social support is one of the most powerful ways to reduce the stress response. Discussing our stress

enables us to view it from a different angle, thereby allowing us to discover new solutions. Many researchers have demonstrated that people benefit greatly from social support and those with a support network experience less stress. So when you start to feel stressed, don’t hesitate to share your thoughts and feelings with others in your support network.

Keep moving!

Activating the stress system results in the mobilization of energy. Energy that was spent in prehistoric times by fighting or fleeing a mammoth will nowadays remain stored in your body and will keep you acutely aware of the slightest irritations in your immediate surroundings. You therefore, need to find ways to expend mobilized energy through regular exercise. Some suggestions: sign up for a physical activity, join friends for a run, organize a soccer game, go skiing, take long walks. If you feel stressed before an important work meeting, use the stairs to consume energy by going up and down the stairs a couple of times before stepping into the office!

Distract the brain

Scientific research has shown that when one interprets a situation as stressful, the brain identifies the situation as a threat. Simply distracting the brain from this threat puts a stop to the stress response. A useful way to distract one’s brain is to picture people or events that are pleasant. For example, picturing moments spent with family, memories of a great vacation or your favourite food can convince the brain into believing that the situation is not stressful. At the office, you could create an online album of your favourite vacations or other special events! This will allow you to become slowly distracted and could potentially diminish your stress response. 🐾



Finding a Psychologist Online

By **Catherine Raymond**, Doctorate student

When faced with the incapacity to manage our daily stress, deciding to consult a health professional can be an interesting option. But where to start? When it comes to that matter, the website of the College of psychologists of Quebec (l'Ordre des psychologues du Québec) is a tool not to be neglected. On this platform, you can find the psychologist for you (Do you want to work with a man? A woman? With which clinical approach? Where in Quebec? And so on!). In this article, we will guide you step by step on the process to find a psychologist online!

1. Go to the official website of the College of psychologists of Quebec www.ordrepsy.qc.ca
2. Click on the tab to start searching "Démarrer votre recherche" (see picture 1)
3. Fill out the various sections indicating 1. Your motive for consulting (what brings you to look for help? For example, you could indicate "Stress" or a precise problem in the key-word search box. You could also leave this section blank if you'd rather) 2. The age group to which you belong (some psychologists specialize in certain age groups) and 3. The place in Quebec where you would like to consult a psychologist. Following this, click on the search tab "Rechercher". (see picture 2)
4. Afterwards, you could add numerous specifications about the therapists

you're looking for (sex, language, mandate, etc.). You'll notice that you also have the option to activate the psychologist only tab "Psychologue seulement". By activating this box, you're sure to consult a professional holding a degree in clinical psychology. Otherwise, you may be referred to a psychotherapist (professional holder of training in aid relationships). For example, this caregiver could be a social worker, psych educator, etc.). It is up to you to decide which option you prefer.

5. By clicking on the show results tab "Afficher les options", you will find many additional options with regards to the professional you would like to consult. Amongst these, you will find the theoretical approach used by the psychologist. You will also find the description of these different approaches. In order to facilitate the task for you, we've created a guide describing each and every one of these clinical approaches at the end of this article. When all is completed, click on the search tab "Rechercher" (see picture 3).

1

– Trouver de l'aide

Effectuer une recherche pour vous ou un proche

Montréal

changer de localisation

DÉMARRER VOTRE RECHERCHE

2

Trouver de l'aide

Notre outil vous permet de trouver des psychologues ou des détenteurs de permis de psychothérapeute. Leurs services sont payants et généralement couverts par les assurances collectives. Pour trouver des ressources gratuites ou à faible coût, cliquez ici.

1. Quel est le motif de la consultation ?

Stress x

Ajouter un second motif de consultation

2. Pour qui est-ce ?

Enfant

Adolescent

Adulte

Personne âgée

Couple

Famille

3. Où ?

Code postal, arrondissement, ville

ou détectez ma localisation

RECHERCHER

3

Afficher les options

6. Finally, the website will propose a list of health professionals that match your search terms. As proposed by Dre Christine Grou (see article: How to climb the Everest in this edition of the **Mammoth Magazine**), it is recommended to choose three or four professionals that seem to match your needs, and to establish a first contact by phone. Afterwards, all that is left to do is set a first date with your psychologist. Remember that if after a few consultations you don't feel a particular connection with this health professional, it is completely normal for you to restart the search procedure a few times before finding the one for you!

The different clinical approaches:

1. Psychodynamic/Analytic

Approach developed by Freud which calls upon the notion of the unconscious and that aims to create a link between the present and past difficulties of the client. By realizing the existence of non-resolved conflicts, the person consulting a health professional adopting a psychodynamic approach should be able to understand them and to get away from them.

2. Existential/Humanistic

Approach advocating that the human being possesses the necessary resources to come true. The goal of existential/humanistic psychotherapy is to bring the person to understand their difficulties and to take their own decisions and to act based on how they feel.

3. Cognitive/Behavioural

The cognitive/behavioural approach states that the psychological difficulties are due to inadequate thoughts or behaviours. We use different techniques and strategies in order to help the client modify their behaviours, thoughts and emotions. The cognitive behavioural approach is very efficient in treating anxious disorders and depression.

4. Systemic/Interactional

According to the systemic/interactional approach, problems take

root in the interaction between a person and their surroundings. The objective of the psychologist is thus to modify the ways of interacting of the client. By doing so, this psychologist will sometimes ask to meet some members of the clients' surroundings. 🐘

(Source: Ordre des psychologues du Québec)

NEXT ISSUE



In Winter 2017, the Center for Studies on Human Stress will share its 17th edition of the **Mammoth Magazine** on the use of new technology in the field of mental health. Does the use of social media lead us to increased stressed? Does being deprived from our cell-phone make us feel more anxious? This edition of the **Mammoth Magazine** will answer some of these questions. Furthermore, we will discuss mobile applications that have been developed and validated by researchers to help us manage issues such as stress, bullying, depression and suicide. We'll see you again in Winter 2017!

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