BRAIN

Better undeRstanding And preventIon of Neuropsychological difficulties

TOOLKIT FOR PROFESSIONALS AS WELL AS FAMILY AND FRIENDS OF PEOPLE WITH NEUROPSYCHOLOGICAL DIFFICULTIES

CLINICAL BOOKLET

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Contents

How to Use This Toolkit?

This booklet is a toolkit for professionals who work with family members and friends of a person experiencing neuropsychological problems (such as difficulties with attention, memory, etc.). Its aim is to help improve understanding of neuropsychological difficulties and accompany family members and friends in their role of supporting a person experiencing such difficulties. The toolkit can also be used with **family members and friends** to help them understand neuropsychological functioning. The toolkit can be handed out to them directly so they can refer to it as needed.

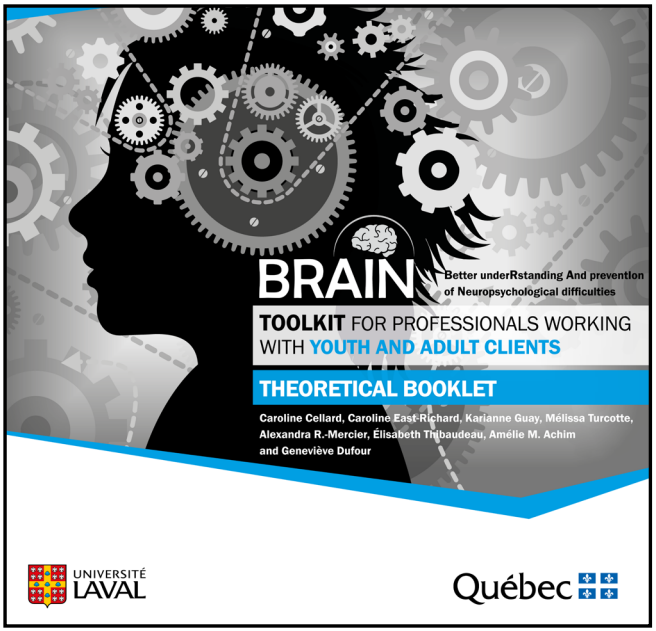
Close One, Family Members, Friends...

To avoid confusion in this toolkit, we will be using the term "**close one**" to refer to a person with neuropsychological difficulties.

We will use "**family members and friends**" to refer to anyone who has a close one experiencing neuropsychological difficulties. A family member or friend may consist of a parent, child, sister, brother, colleague, etc., and the level of "support" may vary from person to person, depending on closeness to the close one.

This toolkit is also intended to bring **hope** to family members and friends of a person experiencing neuropsychological difficulties. It is indeed possible to have a **satisfying life** despite such difficulties. For more information, see the section dealing with recovery on page 7.

To learn more about neuropsychological functioning, risk and protective factors of the brain as well as the impact of daily neuropsychological difficulties, see the **theoretical booklet** of the BRAIN toolkit.



Available on the website of the BRAIN toolkit:

www.cerveau.psy.ulaval.ca

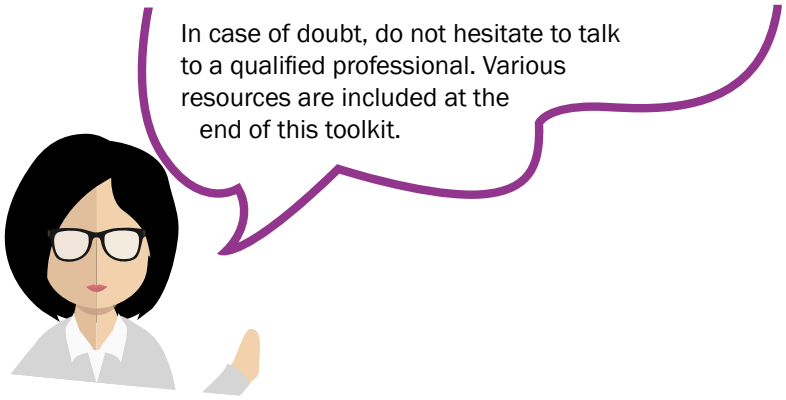
NOTICE to Professionals and Family and Friends

It is important to keep in mind that the purpose of this toolkit is to stimulate the interest of professionals and family and friends in neuropsychological functioning. It also aims to raise awareness of some strategies that may be used to reduce the impact of neuropsychological difficulties on a close one's daily life. **This toolkit is an information document and in no way replaces the expertise of a professional qualified to assess neuropsychological difficulties**. If a person has neuropsychological difficulties that are too severe and/or that hinder their daily functioning, a qualified professional should be consulted (see "When to See a Professional?" on the next page). Resources are also suggested at the end of this booklet.

When to See a Professional?

Here are some tips or situations that may suggest that a close one **needs professional help** (such as a psychologist, neuropsychologist, physician)[1-3]:

- The close one has **difficulties completing daily activities** (such as shopping, participating in a group activity, preparing meals, managing a budget, paying attention in class, being on time for appointments, etc.).
- **Even with help**, the close one still has trouble performing everyday activities.
- Neuropsychological difficulties **persist over time** and/or are **increasingly frequent**. Here are a few examples:
  - Without support, the close one has difficulties that significantly impact various areas of daily life (such as home, school or work).
  - Forgetfulness that used to be intermittent is now a daily occurrence.
  - The close one is more impulsive and has increasingly less control over their words or certain actions.
  - Even several months after an accident, the close one still has trouble concentrating or becomes tired quickly.
- Family members and friends and/or the close one experience **distress** or **concerns** about the neuropsychological difficulties.
- Family members and friends and/or the close one feel overwhelmed by the situation.



Major Cognitive Domains*

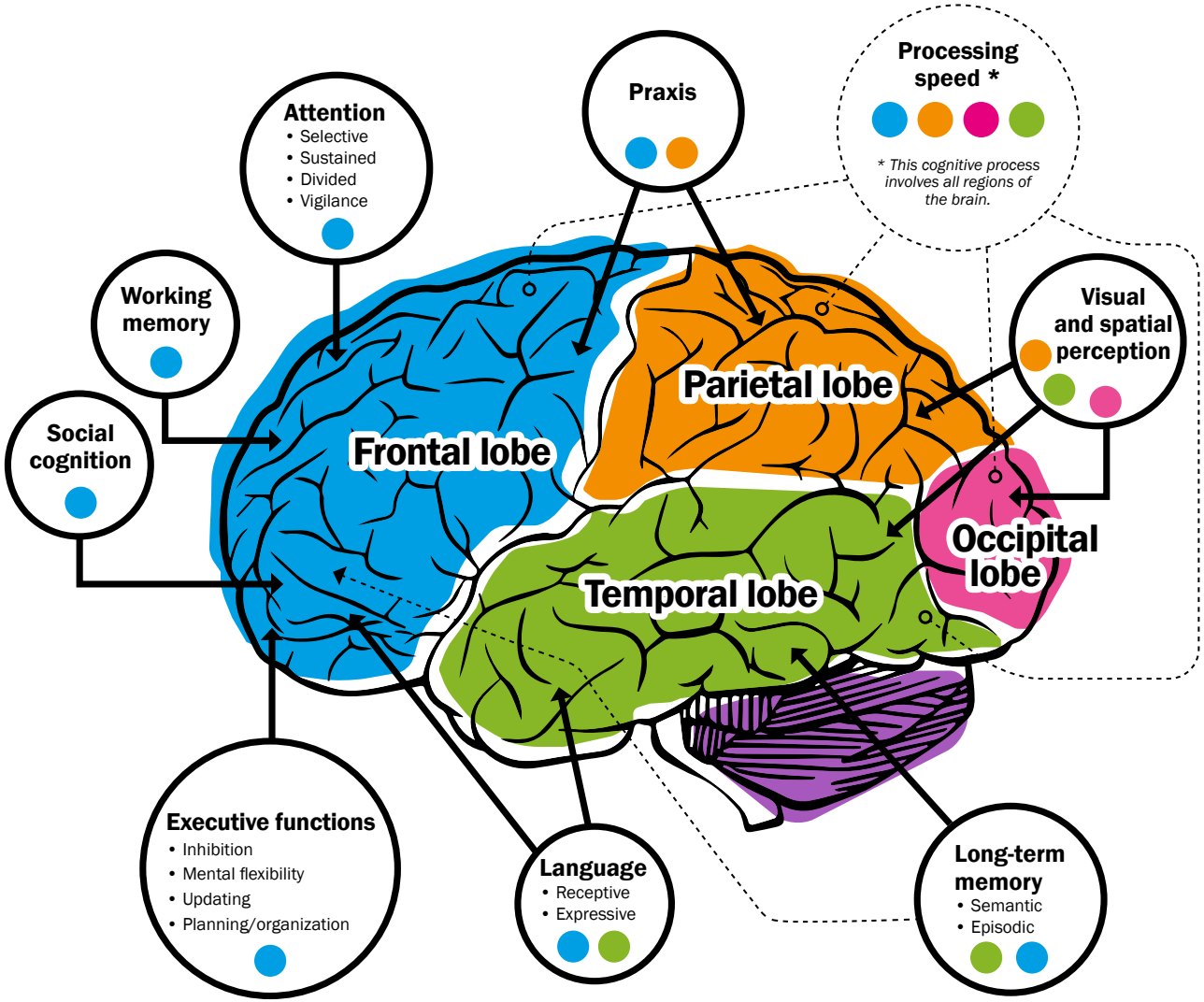
Frontal lobe Parietal lobe Occipital lobe Temporal lobe

Processing speed	Speed or rhythm at which a person processes information or initiates mental operations or tasks.
Attention	Capacity to attain a level of alertness that allows us to focus on various situations.
Working memory	Ability to temporarily maintain and manipulate information in memory, for short time periods (seconds).
Long-term memory	Ability to remember everyday life events, things learned in school, etc. Long-term memory processes include episodic memory (events in our personal lives) and semantic memory (general knowledge).
Executive functions	Processes involved in new or complex situations. These include inhibition, mental flexibility (or cognitive flexibility), updating, and planning/organization. These processes coordinate other cognitive functions, much like an orchestra conductor.
Praxis	Ability to coordinate purposeful movements.
Visual and spatial perception	Ability to perceive surrounding objects according to their orientation, shape, colour, distance, and location in space / the environment.
Social cognition	Processes that support our understanding of the people around us and social interactions.
Language	Allows for communication and includes expressive language (speaking and writing) and receptive language (understanding what is heard or read).

*These are cognitive domains usually assessed in neuropsychology, but other cognitive processes also exist.

Cognitive Processes and the Brain

Cognitive processes are supported by different parts of the brain, but they rarely rely on a single brain region. This figure shows the brain regions most often associated with the main cognitive domains.



Can My Close One Ever Recover?

When a close one's daily life is affected by their neuropsychological difficulties, it is normal to wonder whether those difficulties will ever go away. The response varies greatly from one person to the next and depends on the cause of the problems. However, even if some difficulties remain, some form of **recovery** for the close one is still possible.

The word "recovery" has often been associated with the absence of any symptoms or difficulties (such as when talking about the recovery of someone who was sick with the flu). In mental health, however, the meaning of the word "recovery" is somewhat different and does not necessarily imply a lack of symptoms or problems. Recovery is **specific to each person** and goes beyond merely treating symptoms (e.g. neuropsychological difficulties). For example, a person may still have symptoms or problems in their daily life, but still feel **recovered** if they are happy with their life.

The goal of recovery is for the person to achieve a life that is meaningful. The goal also involves the **person's well-being and social inclusion** so that they can "live, work, learn and participate fully in the community".[4] A person will be considered recovered if they are able to set and achieve personal goals and are **satisfied** with their life, **even if difficulties are still present**. It is a dynamic and evolving process as an individual's goals and challenges are constantly evolving, and some may be easier or more difficult to achieve or overcome.

How to Foster the Recovery of a Close One Experiencing Neuropsychological Difficulties?

Some factors or difficulties may make it hard for a person to feel recovered. This includes neuropsychological difficulties, in part because of the impact it can have on a person's daily life (e.g. functioning at school, at work, at home)[5-9]. Here are some possible solutions to help a close one with their recovery:

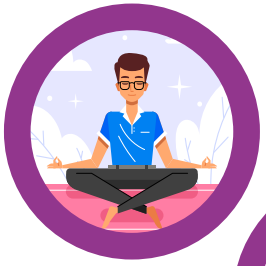
- **Understand** the challenges the close one is experiencing:
  - It is crucial that the close one and family and friends understand the challenges and be aware of possible solutions. In some situations, a professional assessment may be required (see "When to See a Professional?" on page 4 and the proposed resources on page 35). In any case, gaining a better understanding of neuropsychological functioning in general and the difficulties that may arise on a daily basis is an important step towards hope for recovery. In fact, that is exactly what this toolkit is all about.
- Foster a **sense of hope**. It is possible to recover:
  - Neuropsychological difficulties can have a significant impact on self-esteem and sense of competence (i.e., a person's perception of, or belief in, their abilities). We must remember that it is possible to learn how to cope better with our difficulties. This feeling of hope can come from the person experiencing difficulties, but the support of family and friends can also help develop and sustain that feeling.[10-11]

- **Do not define** the close one solely by their difficulties:
  - People who are experiencing difficulties often have to deal with their problems or be reminded of them. In wanting to support a close one, a family member or friend may often talk about the person's problems, which can lead to frustration or stress in the person. It is important for the close one not to define themselves solely by their neuropsychological difficulties, as they may not see the possibility of recovering from them. Professional support and the presence of family and friends can play a key role in creating a positive self-image.[10-11]
- **Emphasize** the close one's **strengths**:
  - It is important to focus on the close one's strengths and find **appropriate strategies**. Several strategies are presented in this toolkit to attempt to mitigate the negative effects of neuropsychological difficulties on daily functioning.

Family Members and Friends as Key Players in Recovery

The supportive role of a family member or friend in the recovery of a close one is critical. Strategies that family members and friends can use to support their close one are offered after each scenario beginning on page 13 of this booklet. However, it is not a good idea for them to try to manage their close one's neuropsychological difficulties. It is important to remember that **family and friends have different roles than clinicians**.

Taking Care of Yourself So That You Can Care For Your Close One



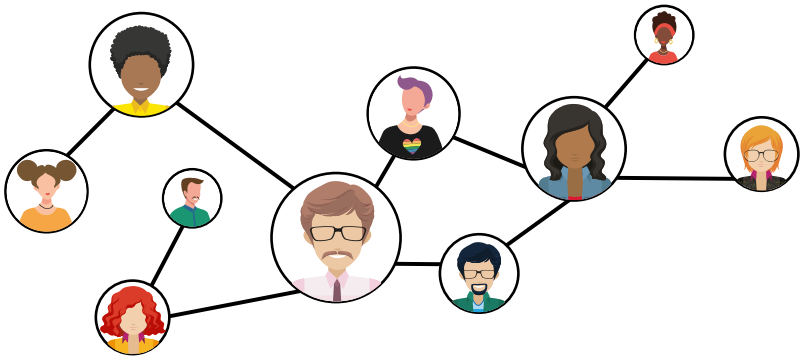
When a close one has neuropsychological difficulties, they may need help with carrying out some activities or you may be tempted to do certain things for them. Being a family member or friend of a person experiencing neuropsychological difficulties can therefore lead to many challenges and emotions (such as sadness, anger, frustration and guilt).[12-14] This can also have an **impact on physical and psychological well-being**. For instance, family and friends may experience more stress, worry about the future, be prone to depression, have physical health problems, and experience social isolation.[15-17] This can be explained by the helplessness or concern often felt with respect to their close one's difficulties. These are normal feelings under these circumstances.

Caring for someone we love can take up a large part of everyday life. It is therefore important to **pay attention to our well-being** and not forget to take care of ourselves. If a family member or friend experiences distress, feels overwhelmed, or exhausted, or experiences negative effects on their daily functioning (social life, performance at work, or daily activities), they are urged to contact a professional for help (see page 35). Such situations must not be disregarded.

Being a family member or friend of someone with neuropsychological difficulties can also result in **positive experiences**. For example, it is possible to feel satisfaction in your role, to please your close one, to give them a chance to fulfill their potential by supporting them, as well as to share mutual love and support.[17-18]

Here are a few tips to maximize the well-being and positive experiences for family members and friends:

- **Having adequate social support** is one of the most important factors.[18-19] It is normal to sometimes feel alone and misunderstood in this key role. Sharing experiences and feelings with other family members or friends or with those in a similar situation can make you feel supported and less isolated. Support can come from your social network (family, friends, colleagues), community resources, or a religious or spiritual organization. Resources are listed at the end of this toolkit on page 35.



- It can also be helpful to **take part in enjoyable and relaxing activities**, such as sports, music, meditation or any other leisure activity that makes you feel good.
- Finally, it may be necessary to see a healthcare professional, such as a psychologist, for **personalized help**.[20]

The key is to find a balance between caring for yourself and your close one.

Scenarios

Scenarios are presented in the following pages to show the impact that neuropsychological difficulties can have on everyday life. These examples illustrate the everyday life of people experiencing neuropsychological difficulties. It is important to bear in mind that a difficulty can be caused by various factors (such as psychological problems).

You may **recognize yourself or a close one** in some of the situations, since each person may experience difficulties in their daily life, depending on **their personal strengths and weaknesses**. These difficulties can vary in intensity and have different impacts on everyday life.

Strategies that can be applied by family members and friends are presented for each scenario. All of the strategies are presented for illustrative purposes only and should not replace the expertise of a qualified professional.

Are you looking for strategies that can be used by the close one themself?

Several strategies are presented in the other clinical booklets of the BRAIN toolkit. Those strategies are designed specifically for the people experiencing the neuropsychological difficulties.

Processing Speed

LORI AND MATTHEW

Lori loves to play video games with her younger brother Matthew. However, Lori noticed that Matthew often complains that the game is too fast for him, that he makes mistakes and gets angry. Matthew's difficulties can be explained by a slower **processing speed**, which is the rate at which the brain processes the information it receives or the speed at which we think.

Matthew may feel overwhelmed if the game requires being particularly fast. It is even worse when it is a new game he is not familiar with. Matthew's difficulties can make him irritable and he gets angry more easily because he feels unable to go faster.

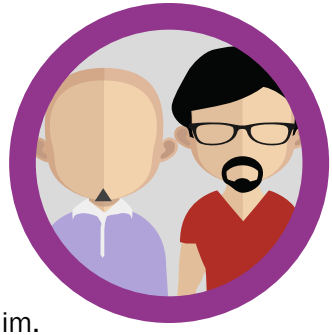
Lori also noticed that he does not follow the game's instructions very well since they are displayed very briefly. Since they play as a team, Lori sometimes gets impatient because Matthew makes mistakes, and they lose. Processing information at a slower speed can result in Matthew missing important information if it is shared with him too quickly. This may give the impression that he is not listening or retaining information, whereas he simply did not have time to read the information properly. His difficulties may cause him to require more time to process the information before responding or completing a task.

Supportive strategies for processing speed difficulties

- Speak slower and allow more time for the close one to review the information being provided (e.g. if possible, pause during the video game when instructions are displayed).
- If necessary, repeat and summarize the information provided to the close one.
- Avoid putting pressure on the close one; do not use phrases such as “hurry up” or “do the task faster”, as the person may make more mistakes.
- To favour the close one’s independence, avoid doing the work for them, even if they do not do it as quickly as you would like.

Attention

KARIM AND CHRISTOPHER



Karim and Christopher work for a company that prepares tax returns. Karim finds that Christopher, a member of the team he coordinates, does not get much work done. He often sees Christopher staring at the ceiling or on his cellphone. Actually, what Karim does not know is that Christopher has **attention** difficulties, which means he has a hard time staying focused on his work and can get distracted by everything going on around him.

Last week, Karim had to make up for Christopher's delay and got angry with him. Christopher explained to him that although he enjoys his job, he has a lot of trouble staying focused for more than an hour working on a tax return. Karim also noted that if Christopher works for an extended period, he makes more mistakes, especially in the last sections of the document. Christopher has trouble with **sustained attention**, which is the type of attention that allows a person to remain focused for long periods of time. In addition, when Christopher checks his colleagues' documents, he rarely notices their mistakes because he has difficulty with **vigilance**. This is a type of attention that makes it possible to detect changes in a routine situation or task where there is little action or novelty (such as detecting errors in a tax return when certain information is repeated).

Although Karim has a better understanding of his colleague's problems, he cannot help but be irritated when Christopher is distracted. For example, when Christopher hears a noise in the hallway, he stops working and focuses on it. Christopher most likely has difficulties with **selective attention**, the type of attention that allows a person to focus fully on the task at hand while ignoring distractions (such as ambient noise). However, Karim found that Christopher was able to talk on the phone and enter amounts in the calculation charts at the same time. Christopher, therefore, does not have a problem with **divided attention**, meaning the type of attention that allows him to focus on more than one thing at a time.

Supportive strategies for attention difficulties

- Before conveying important information to a close one, make sure they are focused and attentive (for instance, establish eye contact before starting to talk to them about an appointment, or touch their shoulder to get their attention).
- Vary the tone and pace of your voice to help your close one stay focused during a conversation.
- When the close one is busy with a task, avoid distracting them if possible.
- When the close one needs to focus on a task or conversation, reduce nearby sources of distractions (for example, turn off the TV, lower the volume of the radio, do not leave a cellphone in their field of vision, etc.).
- Avoid asking the close one to multitask. Give them one task at a time and, if they are already busy, wait until they are done before speaking to them or giving them another task to do (or have them take a break from the task they are doing).

Working Memory

ANNA AND MADELEINE

Anna often has to repeat to her mother, Madeleine, information that she has just been told or that was read to her. Madeleine's difficulties are partly the result of problems with **working memory**, which is the ability to maintain and manipulate information for a few seconds to a minute in our head. The amount of information that can be temporarily maintained and manipulated in working memory is limited and varies from person to person.

During movie nights, Anna often gets impatient because her mother asks her to repeat several times what had just been said or what just happened as if she was not listening. Madeleine is in fact carefully watching the movie, but she can not follow the conversations, as if there was too much information in her head at the same time causing her to experience "information overload." She often feels like she is losing track of or forgetting information she has just heard or seen. Anna also notes that when her mother has to dial a phone number, she keeps it in front of her because she is unable to retain the entire number in her head while dialling. Madeleine's difficulties can be explained by problems with **maintaining information** in working memory. This working memory process enables us to temporarily retain information that is read, seen or heard in the last few seconds or the last minute.

When they go to the movie theatre and Madeleine has to buy snacks at the counter, she has trouble estimating the total of her bill according to the items she chose. Anna wants to avoid holding up the line and prefers to pay herself, which sometimes hurts her mother's feelings. Madeleine's trouble performing mental calculations can be explained by difficulties **manipulating information** in the working memory. This working memory process allows a person to juggle several pieces of information at once (such as the cost of a purchase and the money available in the wallet) so the right action can be taken (such as handing out the right amount of money).

Supportive strategies for working memory difficulties

- During a discussion with the close one, use the shortest possible sentences to avoid overloading the person's working memory.
- Send one request at a time, and if multiple instructions or requests are to be sent, send them in the order in which they are to be completed.
- When providing options to the close one, limit the options to 2 or 3 (said out loud), or write them down if there are more.
- Make sure that the close one has understood the main or key information (for instance, summarize the main plot of a film).

Long-Term Memory

GUY AND JOHN

Ever since they retired, Guy and John go golfing every week when the weather is good. John has noticed that his friend Guy sometimes fails to remember some of the moments they spent together. Guy's forgetfulness can be explained by difficulties with **long-term memory**, which enables us to store memories, learn new information and remember it.

Guy sometimes arrives late for their golf game because he loses track of time. He also tells John stories that he has already told. Guy also has more trouble using the new golf carts. Although John explained how the new carts work, Guy does not seem to remember all the information from one time to the next. Guy's difficulties can be explained by problems with **episodic memory**, a type of long-term memory. This type of memory allows a person to remember events that have taken place recently (such as the coffee the two friends had together just before their golf game) as well as more distant events (such as last year's tournament winner). Memories are stored in episodic memory along with the context in which they occurred. The location, time and emotions experienced at the time can be stored with the memory. For example, when John thought about the last golf game he played with Guy, he could remember the location (golf club close to his home), the time (a Monday morning this summer) and how he felt (relaxed and comfortable in the warm sun). Problems with episodic memory can also make it more difficult to learn new information, such as with Guy and the new golf carts. Guy is unable to retain all the information or to remember it properly.

Another type of long-term memory is **semantic memory**, the general knowledge a person has about objects, concepts, words and their meaning. Semantic memory is like a personal encyclopedia. Unlike episodic memory, information in semantic memory is not stored with the context in which it was learned. For example, it is difficult to know when and in what context Guy learned that Paris is the capital of France. Although he has problems with episodic memory, Guy has no trouble with semantic memory. Even though Guy often forgets his appointments, he can remember the names of the most reputable golf clubs.

Supportive strategies for long-term memory difficulties

- Leave important items or frequently used items in the same place (e.g. leave keys, glasses and cellphone in a basket near the entrance, leave the agenda in the briefcase, etc.).
- Enter important events and appointments on a calendar or time manager placed at a prominent location in the home (e.g. on the fridge).
- You may have to repeat the same information to your close one several times. Repetition, practice and consistency over time are essential to favour learning.

Executive Functions

ALEXANDER AND JULIAN

Alexander and Julian moved into their first apartment together and must learn to cope with new responsibilities. Alexander noticed that Julian has even more trouble adjusting than he does, especially with meal planning, a daily activity that requires **executive functioning**. Executive functions can be seen as an orchestra conductor. The conductor coordinates and integrates musical instruments to ensure a harmonious melody. He has to keep an eye on all the instruments and sometimes has to ask some of them to play louder than others. Like a conductor, executive functioning coordinates and manages other cognitive functions (such as attention) to ensure optimal neuropsychological functioning. Executive functioning is necessary in complex or new situations that require adaptation, as is the case for Julian and Alexander.

For the first month after their move, Alexander and Julian did tasks they had never really done before (such as paying bills, shopping for groceries and preparing meals, and managing their budget to pay the rent). After a while, Alexander became more comfortable with these daily activities, whereas they continued to be a challenge for Julian. When Julian wants to prepare a meal, he always ends up ordering pizza because he does not have all the ingredients needed for the recipe he wanted to make. Also, when he goes shopping, he does not always purchase the right ingredients or he buys ingredients that he already has. Julian's difficulties may be associated with certain executive functions, namely **organization and planning**. These functions allow a person to anticipate the actions needed to achieve a goal (such as preparing a meal) and to implement effective strategies to achieve it (such as list the required ingredients and then go to the grocery store to buy them).

To help him, Alexander decided to make the grocery list with Julian, but Julian still makes mistakes. For example, Alexander called him one night before he went to the grocery store to tell him to buy salmon instead of chicken. Back at the apartment, Alexander was a little disappointed when he saw that Julian had bought chicken. This error can be explained by problems with **updating**, another executive function. This function helps to replace old information (buying chicken) with new information (buying salmon) and is used to adapt our behaviour to incorporate new information.

Supportive strategies for executive functioning difficulties

Planning and organization

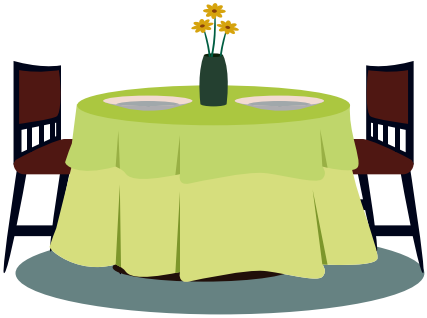
- Use a household task list to share different tasks and display it in a prominent location.
- Break down complicated or confusing instructions or tasks into simple steps.
- Encourage the use of a clearly defined filing system for different objects and documents (such as baskets, drawers, files, colour coding).

Updating

- If a piece of information, rule or instruction is changed, send it in writing to the close one (such as using a text message to remind them to buy salmon instead of chicken).

MARY AND THOMAS

Last week, Mary and Thomas went to a restaurant. When they arrived, their table was not ready, which upset Thomas. Once seated at the table, Thomas was unable to talk about anything other than the restaurant's mistake and the fact that they had to wait in the lobby. Thomas' behaviour can be explained in part by difficulties with **mental flexibility**. This executive function represents a person's readiness to switch between different ideas or instructions. Mental flexibility also allows a person to imagine different ways of seeing or doing things and to adapt their behaviours when the context changes (such as when the table is ready and our companion would like to change the topic of conversation).



During the meal, Thomas frequently interrupted Mary. At times he also answered the waiter before the waiter had even finished his sentence or spoke with a loud voice. At times, even if Thomas tried to hold back his thoughts or emotions, he was not always successful at it. Part of his behaviour can be explained by difficulties with **inhibition**, an executive function that acts somewhat like a filter or restraint for thoughts and behaviours that are not appropriate in a situation. Inhibition difficulties can also be associated with impulsivity (such as buying items that are not really needed or doing things on the spur of the moment without thinking about the consequences).

Supportive strategies for executive functioning difficulties

Mental flexibility

- If a close one has trouble switching to another topic of conversation, it may be because the topic is more emotionally charged for them. Be understanding and emphasize the pleasant aspects of the moment. You can try talking about something else by choosing a topic that will be of interest to them (for instance, tell them about their favourite sport, an activity your close one was recently involved in, etc.).
- Give your close one more time if they need to change activities or instructions so they can adjust.

Inhibition

- Try to be patient and to understand when your close one has a hard time stopping certain behaviours or speech. If it becomes difficult for you to stay calm, take a step back (see “Taking Care of Yourself So That You Can Care For Your Close One” on page 10).
- Develop a code with your close one so that you can give them a signal to step back or stop when the situation requires it (such as touching their hand or holding it discreetly when they interrupted someone).

Language

JULIET AND ISABELLE

Isabelle noticed that her daughter, Juliet, who is in elementary school, is having a hard time with her English homework. Juliet often makes mistakes when reading and writing. She notably has **language** difficulties that affects her ability to properly communicate her ideas, and understand what she is reading as well as what she is being told.

When Juliet has to read a text to answer reading comprehension questions, she often makes mistakes, even when she takes her time to carefully read the text. At first, Isabelle thought that her daughter was simply not paying attention to what she was reading. However, even when Juliet reads topics she is interested in, she does not always seem to understand what she reads. She is experiencing difficulties with **receptive language**, which is the ability to understand what is being communicated in writing or verbally. Because of this problem, it can be difficult for Juliet to grasp the meaning of sentences, especially if they are long and complex. Some people may even have a hard time properly recognizing the letters, syllables and sounds of language associated with the letters.

Isabelle also noticed that Juliet needs a lot of help with written assignments. Juliet has a tendency to write words as she hears or says them. Also, although Juliet has learned grammar and conjugation rules, she finds them difficult to apply. Juliet's difficulties can be explained by problems with **expressive language**, which is the ability to express oneself, either in writing or verbally. Some people experiencing problems with expressive language may also have difficulties expressing themselves properly and will tend to search for their words or sometimes choose the wrong word.

Supportive strategies for language difficulties

Receptive language

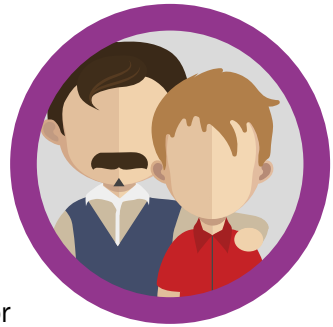
- During conversations with a close one, simplify the information that is being conveyed (for instance, choose simpler words and use short sentences).
- Use pauses and speak more slowly while maintaining a natural flow of speech, which will make it easier for the close one to understand what is being said. Your close one will also be able to speak more often and take the time needed to answer.
- Use pictograms or pictures to make it easier for them to understand certain topics or concepts (for instance, place an image prominently in sight for each step of a child's bedtime routine).

Expressive language

- If your close one is trying to find the right word, avoid putting pressure on them and becoming impatient. Wait for them to find the word they are looking for. You could also suggest a word, ask for or give clues, or suggest that they finish what they were trying to say (without the word) and come back to it later if the word comes back to them.
- If your close one appears to have made a mistake in what they meant (such as not using the correct expression), you can check your understanding by reformulating the idea in your own words (rather than confronting them on their possible mistake) to avoid any misunderstandings.
- While encouraging the use of speech, you can also make communication with your close one easier by encouraging the use of alternative means such as a notebook, tablet or computer when necessary.

Praxis

STEVEN AND MAX

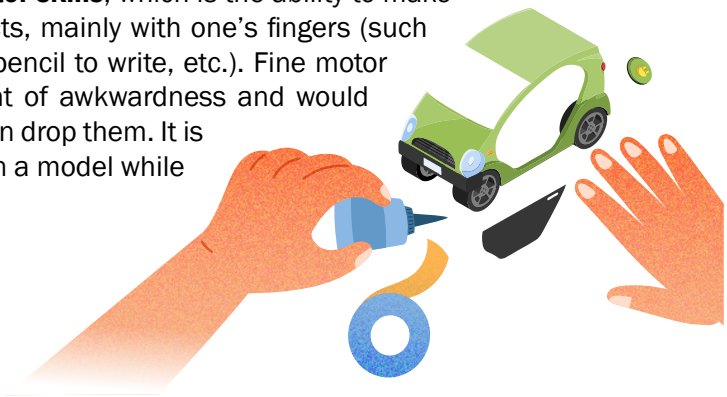


When he was young, Steven loved crafting and building models, so he tried to get his son, Max, interested in these activities. Unfortunately, Max is not interested in crafting and is rather awkward when it comes to handling small objects. In fact, Max has difficulties that seem linked with **praxis**, the ability to perform the intended movements (such as crafting, and properly picking up scissors).

After a crafting session, Steven must often clean up some paint on the floor or pick up some material that his son has dropped. When they try to make miniature models, his son often gets discouraged because he does not have the required precision to set the small pieces properly. Steven has also received a call from Max's teacher the previous week as his son refused to attend an arts and crafts workshop. When Steven asked Max why, his son told him that he was not good enough and that the other kids would laugh at him and say that he was clumsy because he often gets paint on himself.

At home, Steven also noticed that his son has trouble with some activities that should be rather easy for a kid his age. For example, Max is still unable to tie his shoes properly and asks for Velcro shoes. Steven tried to show him how to make a loop with the laces using several different techniques, but nothing seems to work. Max mixes up the order of the different steps. Max's difficulties could be explained by problems with **planning, coordination and completing a series of gestures** (such as tying laces). Each time it is as if he is doing the task for the very first time. Praxis can be seen as a dictionary for "ways of doing things" or sequences of actions that have been learned (such as when riding a bike, you need to step on the pedal, kick off, maintain your balance, etc.). For Max, the sequence of actions is not properly retained in his dictionary. He has to think about the actions and about each step of the sequence every time, which tires him out.

Max also seems to have problems with **fine motor skills**, which is the ability to make precise movements when handling small objects, mainly with one's fingers (such as gluing a small part on a model, grasping a pencil to write, etc.). Fine motor skills can be associated with a certain amount of awkwardness and would explain why Max would knock things over or often drop them. It is somewhat like trying to glue a very small part on a model while wearing hockey gloves.



Supportive strategies for praxis difficulties

- When a close one is clumsy or has trouble performing certain actions, try to be kind and patient with them.
- Avoid only doing activities that they find difficult (even though the goal is for them to get better at doing these activities). It may also be useful to suggest activities that they enjoy and in which they are more skilled and confident, which enables them to build on their strengths.
- Hand your close one objects that are easier to grasp and handle (such as a cup with a rim and utensils with larger handles).

Visual and Spatial Perception

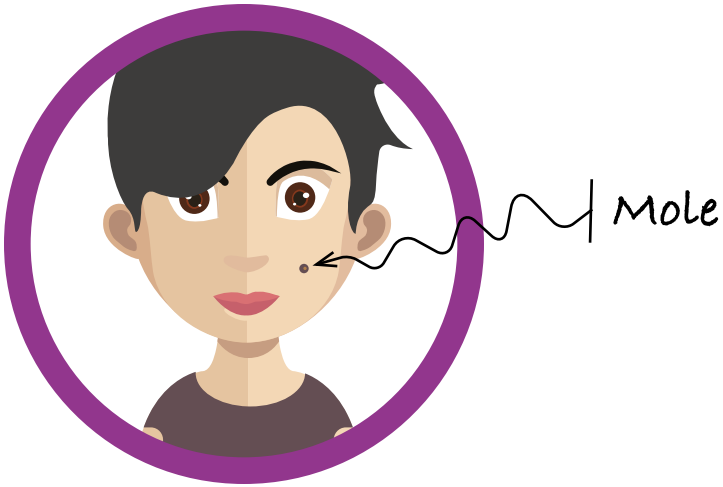
JEFF AND NICOLE

When he goes to do volunteer work, Jeff often asks his wife, Nicole, where his personal belongings are (such as his glasses or keys). Nicole noticed that these objects are often in front of him and feels like if Jeff does not make much of an effort to look for them before asking her. In fact, even though the objects Jeff is looking for are right in front of him, he sometimes has trouble seeing and identifying them. He also often confuses two objects that look alike (such as a magazine and a tablet). He experiences difficulties with **visual and spatial perception**, which is the ability to clearly perceive the objects around a person (their shape, colour, orientation), as well as their location in space and the distance at which they are located.

Last week, Jeff complained that he could not find his wallet although it was right in front of him, but placed in a different angle of sight than usual. When Nicole pointed out that the wallet was right in front of him, Jeff did not understand why he could not find it. It was as if he could not recognize that the object was his wallet. Jeff has trouble with the **visual perception of objects**. These difficulties are especially present when objects have specific characteristics or are placed with unusual angles of sight (such as a wallet being open rather than closed). This is not a visual problem, but rather the brain not properly processing the visual information being fed to it.

Nicole and Jeff have always enjoyed walking on the trails behind their home. However, Jeff often stumbles, since he sometimes will not see a rock on the ground. He feels that he can see obstacles well (rocks on the ground) but is not always able to avoid them. This is due to difficulties with **spatial perception**, which makes it difficult to assess the location or movement of an object or the distance of objects in relation to the person or another object. That is why Jeff stumbled even though he clearly saw the rock. He failed to properly assess the distance between the rock on the ground and himself in relation to the movement of his legs while walking.

Some people may also experience difficulties with **facial perception** and may have trouble recognizing faces, even familiar ones, especially for people they see infrequently (such as an acquaintance) or in an unusual setting (such as bumping into a co-worker at the movie theatre). They may also confuse people and not recognize them.



Supportive strategies for visual and spatial perception difficulties

Visual and spatial perception of objects

- Try placing objects in the usual angles of sight in the environment so the close one can easily recognize them (e.g. a book or wallet that is closed rather than opened).
- To make it easier for the close one to recognize objects, make sure that the "visual information" is always the same: ideally, always keep important objects in the same places (e.g. keys on a hook near the front door, reading glasses on the nightstand). Also, use the same containers (e.g. always buy the same brand of mayonnaise). It will be easier for the close one to recognize them quickly because they will know that the object they are looking for is always in the same place and always has the same shape and colour.

Facial perception

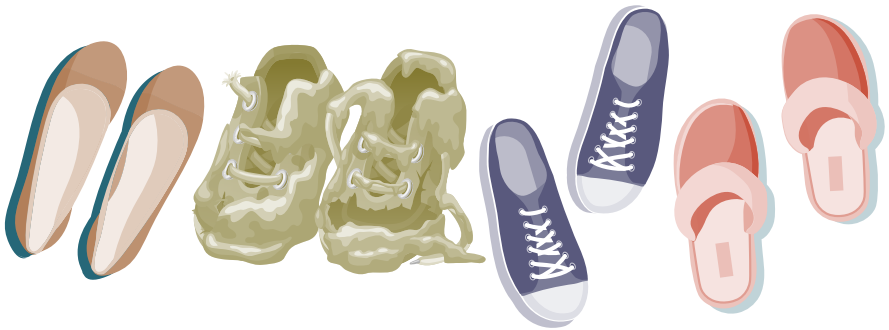
- Together with the close one, try finding specific characteristics for the people the close one is in contact with so that they can more easily recognize these people (such as a beard, distinctive mole, particular hairstyle, an expression often used by the person, a particular tone of voice).

Social Cognition

EMMA AND VALERIE

Emma and Valerie just moved into an apartment together. Although they are best friends, there are often misunderstandings and conflicts between them. In fact, Emma often comes into conflict with family members and friends since she has a hard time understanding what people think, feel or want. Her difficulties can be explained in part by problems with **social cognition**, a set of functions that enable a person to understand others and adjust their own behaviours when interacting with them.

A few weeks after moving in, Valerie quickly realized that Emma was creating a mess in every room and was not cleaning up. One evening, seeing the state of the kitchen after Emma had been cooking, Valerie said, *"Wow! It looks like a tornado has been through here!"* Another time, Valerie was looking for a pair of shoes in the entrance closet and noticed that Emma was putting her muddy shoes over her own shoes. She then said: *"That's quite the pyramid of shoes in the closet! If this continues, I will have to start putting my shoes in my bedroom."* Emma laughed, because she did not understand Valerie's intent, which was to ask her to clean up. This is due to difficulties with a specific function of social cognition, **theory of mind**, which is the ability to understand how the intentions, emotions, beliefs or knowledge of oneself and others affect human behaviour. That is why Emma has trouble understanding the sarcasm and insinuations expressed by her friend Valerie, whose intent was to ask her to clean up.



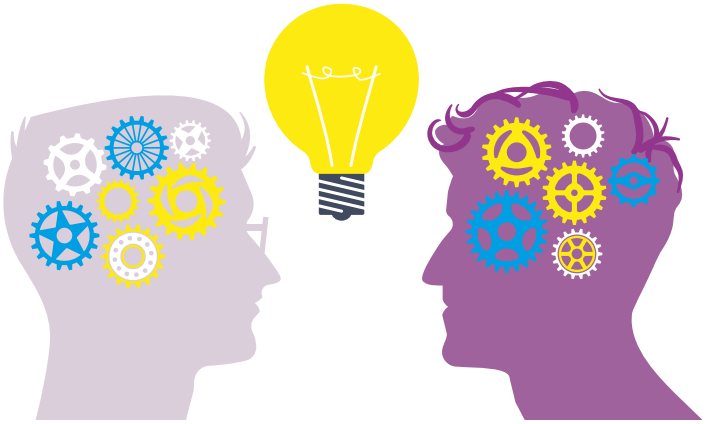
Seeing that her point was not coming across with her sarcastic comments, Valerie began to use a drier tone of voice with Emma and showed anger when they were together. Although Emma felt that something was wrong, she did not understand that her best friend was angry. This may be due to problems with other aspects of social cognition, such as the ability to **recognize emotions** expressed in the face, tone of voice or other non-verbal cues (e.g. body language, sighing). Although Emma felt that something was off with Valerie, she was not able to recognize the expression of anger on her friend's face or in her dry tone of voice.

One evening, Valerie finally expressed her anger when she saw that the kitchen was once again in a mess and told Emma that she was being disrespectful. Emma was thrown off because she did not understand what she was being accused of. Valerie reiterated all the comments she had made over the last few weeks about cleaning. Emma then felt guilty because she had not understood what her friend was trying to convey. She apologized and said she would be more careful about cleaning. Emma has no problems with **emotional regulation**, which is the ability to properly manage emotional reactions. In fact, even though Emma felt guilty, her reaction was appropriate to the context, and she did not explode in anger or start throwing things, for example.

Emma also has no trouble in terms of **social perception**, another function of social cognition that allows a person to understand the roles, rules and expected behaviours in certain situations. For example, she knows that the behaviour expected in certain settings (such as at the movie theatre and library) is different from how she should behave at a get-together with her friends. Emma also has no trouble interpreting the reasons for social situations ("**attributional style**"). For example, in a conflict, she is able to recognize what she as well as the other person did wrong, while others may have a tendency to automatically blame themselves, or always blame others.

Supportive strategies for difficulties with social cognition

- If a close one has a reaction that is not entirely appropriate in a given situation, you can explain to them what happened to make sure they understand (such as the waitress not greeting them because she was in a hurry and other clients were waiting to pay).
- Avoid using sarcasm, insinuations or double meanings. Express yourself clearly (emotion, desired behaviour, etc.). Do not expect your close one to “infer” or “read between the lines” (for instance, tell them clearly that you do not appreciate when they put their dirty shoes on top of your clean shoes).



Resources

When certain difficulties become too overwhelming or interfere with daily functioning, a qualified professional needs to be consulted. This section lists useful resources.

Family physician

Psychologist or neuropsychologist:

Professional qualified in the assessment and treatment of affective and neuropsychological difficulties.

Speech therapist:

Professional qualified in the assessment and treatment of language difficulties or disorders.

Psychoeducator:

Professional who works with people with behavioural adjustment problems in their various environments.

Social worker:

Professional who helps people and communities experiencing problems associated with difficult, crisis or day-to-day situations.

Remedial teacher:

Professional who assesses and intervenes with people who may have learning difficulties.

Associations or community organizations in your local area:

Various services that can be offered for you or your loved ones.

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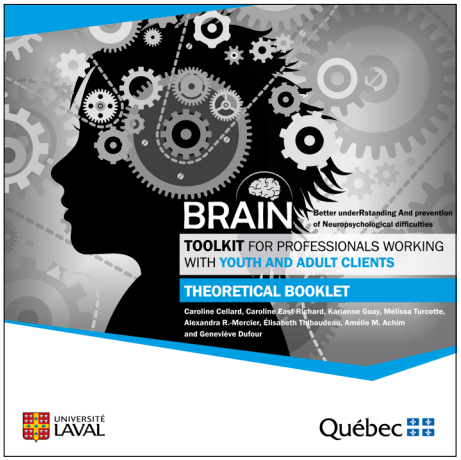
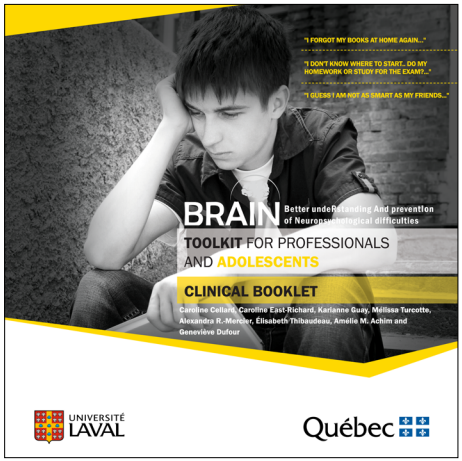
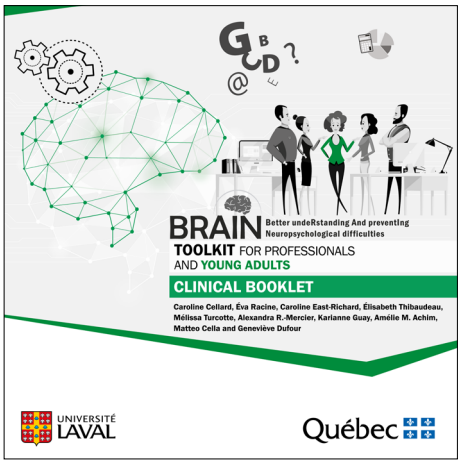
In the Same Collection



THEORETICAL BOOKLET



CLINICAL BOOKLET (adolescents)

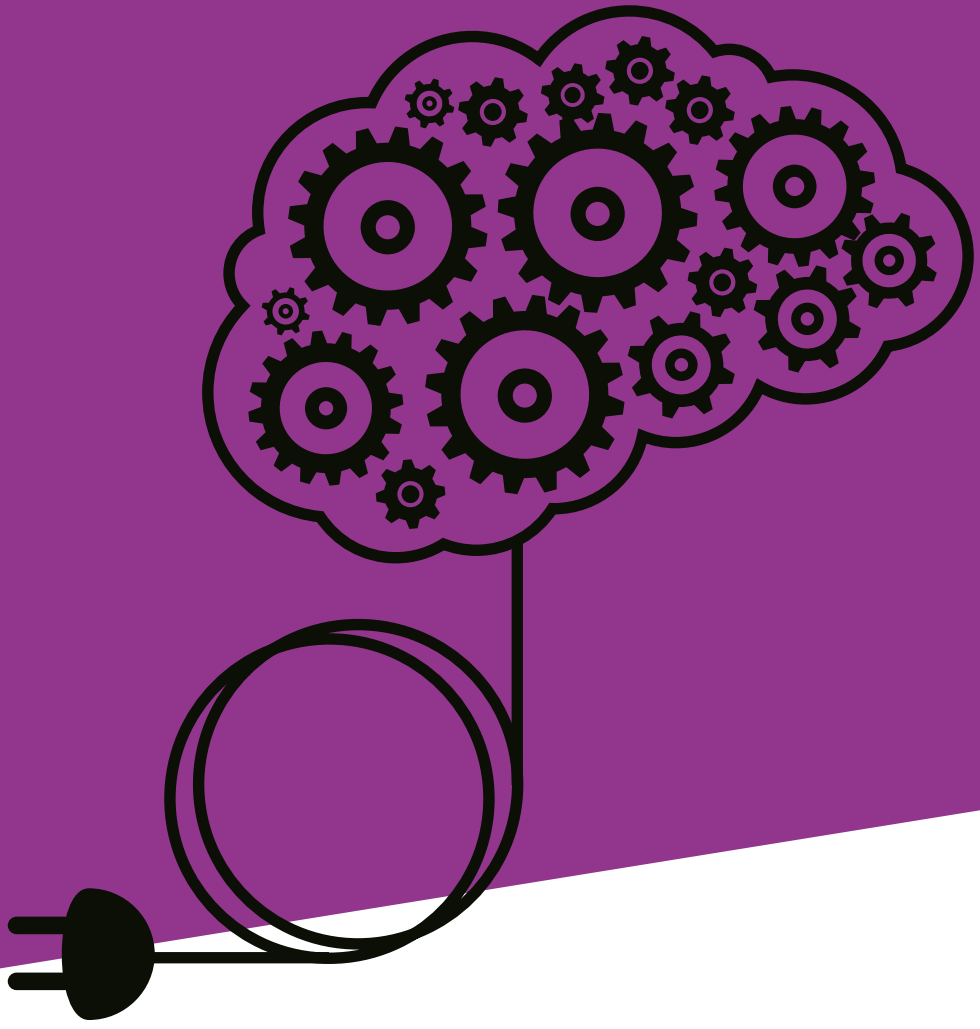


CLINICAL BOOKLET (young adults)

Available on the website of the BRAIN toolkit: www.cerveau.psy.ulaval.ca

Video vignettes are also available on this website.

If you have any questions about the BRAIN toolkit, please write to caroline.cellard@psy.ulaval.ca



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