DIAGNOSTIC COGNITIVE TEST FOR INSOMNIA CAB-IN

RESULTS REPORT

JEFF WALKER
DATE OF ASSESSMENT: 01/02/18
BIRTHDAY: 15/07/62
AGE: 55

Cognitive risks
Insomnia symptoms
Sleep hygiene
Associated Symptoms

JEFF'S PROFILE
LOW RISK  MODERATE RISK  HIGH RISK
MODERATE RISK ASSOCIATED WITH INSOMNIA

Jeff Walker's Results

SYMPTOMS

16/29

A moderate risk that may be associated with insomnia has been detected.
No apparent risk range: 0-8
Symptoms detected: 16

COGNITIVE RISKS

1/8

No risk of insomnia or associated cognitive decline has been detected, but if there is something that leads you to believe that Jeff may have insomnia or some other disorder, we recommend that Jeff see a professional to complete the diagnosis with a clinical consultation.
No apparent risk range: 0-2
Detected risks: 1

EVALUATED RISKS AND SYMPTOMS

<table>
<thead>
<tr>
<th>Evaluated Risks</th>
<th>No Apparent Risk</th>
<th>Jeff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associated symptoms</td>
<td>0-2</td>
<td>5</td>
</tr>
<tr>
<td>Insomnia symptoms</td>
<td>0-4</td>
<td>7</td>
</tr>
<tr>
<td>Sleep hygiene</td>
<td>0-2</td>
<td>4</td>
</tr>
<tr>
<td>Cognitive risks</td>
<td>0-2</td>
<td>1</td>
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CONCLUSIONS

- Stimulate the cognitive skills that Jeff scored lowest in.
- Stimulate executive functions and other skills where Jeff shows difficulties. Work on improving the functions caused by poor sleep quality of lack of sleep, as it may help improve memory, attention, and mental acuity.

This is code to get a 25% discount on the clinical training and stimulation program for insomnia: INSOMNI025
DESCRIPTION OF THE INSOMNIA ASSESSMENT BATTERY

Jeff took the Insomnia Assessment on 01/02/18 at 55 years of age. The detection questionnaire adapts to the main diagnostic criteria, signs, and symptoms of insomnia. The evaluation of the cognitive index used clinical scales and normalized and validated tests for users 55 years-old.

The Cognitive Assessment Battery for Insomnia is made up of a series of clinical questions and a set of practical tasks that last a total of about 30-40 minutes. The CAB-IN is a scientific resource that makes it possible to evaluate the risk index for insomnia, evaluating the main neuropsychological factors identified in scientific literature.

The scores presented in this report represent the user's performance on a specific day and at a specific time. Performance may vary depending on a number of factors, like comfort level, alertness, and time. The results from this report do not reflect a diagnosis and should be reviewed by a qualified healthcare professional (psychologist, psychiatrist, neuropsychologist, neurologist, etc.). These results should be used as a complementary tool to a clinical consultation.

The results from this report offer a base on which to identify support strategies or help the patient seek the help of a specialist that may be able to study the case in more detail. This cognitive screening is designed to provide valuable information that may help objectively evaluate the different neuropsychological factors of someone who may have a sleep disorder.

THE REPORT FROM THE CAB-IN IS MADE OF THREE PARTS:

01 SYMPTOMS

The answers from the questionnaire will be focused on the following areas:

- Associated Symptoms
- Insomnia symptoms
- Sleep hygiene

02 COGNITIVE RISKS

In this section, you will see a circular diagram next to each evaluated area, which will indicate the user's score based on their percentile and normalized for their age and gender. For example, a score of 500 would be calculated depending on the user's age group. CogniFit's values are calculated in percentiles but are shown adjusted on a scale of 0-800. As such, the higher score, the better.

Green: Cognitive strengths
Yellow: Below-average cognitive skills
Red: Cognitive weaknesses

03 CONCLUSIONS

At the end of the report, you will find:

- A description of the risk index and the effects on cognitive profile and detected symptoms.
- Specific recommendations and personalized plan of action.
01 SYMPTOMS
Insomnia is a sleep disorder that is defined as the difficulty to fall and stay asleep. This may manifest itself as a difficulty falling asleep, waking up frequently at night, or waking up earlier than intended. This may be caused by many factors, and the most common complaints associated with insomnia are daytime sleepiness, poor concentration, memory problems, and inability to feel active during the day.

JEFF’S SYMPTOMS SHOW A MODERATE RISK ASSOCIATED WITH INSOMNIA

SLEEP HYGIENE
MODERATE RISK
Sleep hygiene is the control of all of the habits and environmental factors that precede, favor, and may interfere with sleep. Trouble falling asleep and daytime drowsiness may be the beginning of poor sleep hygiene.

INSOMNIA SYMPTOMS
MODERATE RISK
There are some clinical criteria, that are validated and reliable, to establish an insomnia diagnosis. These criteria will be explored through specific Signs and Symptoms.

ASSOCIATED SYMPTOMS
HIGH RISK
Some associated symptoms appear in sleep disorders, like irritability, lack of concentration and memory, digestive problems, and weight change, among others.
According to the results of the questionnaire, Jeff shows significant symptoms in the areas of associated symptoms. As such, there are some symptoms compatible with a decline in cognitive performance and it's important not to discard other possibilities.

**IMPORTANT** These results are not a diagnosis. This information cannot substitute a formal diagnosis given by a professional, but it can serve as a complementary tool to help make a comprehensive diagnosis.
ASSOCIATED SYMPTOMS
HIGH RISK

Jeff presents significant associated symptoms of insomnia. The associated symptoms of insomnia are a set of physical and cognitive changes in memory, attention, concentration, and the ability to carry out different mental tasks, and are associated with lack of sleep or poor sleep quality. In this case, Jeff has shown these associated symptoms of lack of sleep.

The answers from the questionnaire related to Associated Symptoms that show that Jeff presents significant physical or cognitive changes are:
- Needs their day planner more than ever to remember events and appointments.
- Is easily able to concentrate at work.
- Has trouble remembering the names of things (people, objects, places) than before.
- Has more trouble planning and organizing their time than before.
- Forgets appointments or plans.

INSOMNIA SYMPTOMS
MODERATE RISK

Jeff presents mild warning signs of insomnia. Insomnia is the most common sleep disorder and is one with the greatest sanitary and social transcendence. People with insomnia complain mainly of a dissatisfaction with the quality or quantity of sleep that they receive. This dissatisfaction may come from the difficulty of falling or staying asleep throughout the night, as well as the times a night that they wake up.

Jeff’s answers for Symptoms of Insomnia that indicate mild symptoms are:
- Wakes up feeling like they didn’t get any rest.
- Wakes up multiple times during the night.
- Is unsatisfied with the amount or quality of sleep they get daily.
- Has trouble falling asleep.
- Wakes up early and can’t fall back asleep.
- This problem had lasted more than three months.
- Even in favorable sleeping conditions (quiet, comfortable bed and temperature, no external light, etc.), it’s difficult to fall asleep.
SLEEP HYGIENE
MODERATE RISK

Jeff presents sleep habits that should be improved. When talking about sleep disorders, the first thing to look at our sleep habits and pre-sleep rituals. Sleep hygiene resumes a lifestyle that favors a healthy state for sleeping. People who show satisfactory sleep stages have a lifestyle and eating habits that are conducive to sleeping well. These habits and behaviors are known as ‘sleep hygiene’ and have benefits in all of the stages of sleep: initiation, maintenance, waking, and alertness.

Jeff’s answers with respect to Habits and Sleep Hygiene that indicate sleep habits that could be improved and may be causing poor quality or lack of sleep are:
- Takes “uppers”, like coffee, tea, tobacco, etc., especially in the afternoon or at night.
- Usually has a heavy dinner and eats late, just before going to sleep (less than an hour before going to bed).
- Exercises or works out at the end of the day.
- Does activities that require some kind of mental exercise before going to sleep.
02 COGNITIVE RISKS

In this section, you will see a circular diagram next to each evaluated area, which will indicate the user’s score based on their percentile and normalized for their age and gender. For example, a score of 500 would be calculated depending on the user’s age group. CogniFit’s values are calculated in percentiles but are shown adjusted on a scale of 0-800. As such, the higher score, the better.

REASONING
471/800
Ability to efficiently use (organize, relate, etc.) acquired information.

MEMORY
442/800
Ability to retain and manipulate new information and recover past memories.

ATTENTION
529/800
The ability to filter distractions and concentrate on relevant information.

COORDINATION
520/800
The ability to efficiently and precisely carry out organized movements.

PERCEPTION
624/800
Ability to interpret stimuli from the environment.

NO APPARENT RISK WAS DETECTED IN JEFF’S COGNITIVE PROFILE
**LOW RISK**

**COMPLETE COGNITIVE REPORT FOR JEFF**

No risk has been found in Jeff’s cognitive profile. The results from the different cognitive evaluation tasks show that Jeff’s strongest areas are reasoning, memory, attention, coordination and perception. As such, no cognitive weaknesses associated with poor quality or lack of sleep have been found in Jeff’s cognitive profile. We recommend bringing this information to a professional to help make a more precise diagnosis.

**IMPORTANT** These results are not a diagnosis. This information cannot substitute a formal diagnosis given by a professional, but it can serve as a complementary tool to help make a comprehensive diagnosis.
Jeff has received scores that indicate that Processing Speed is appropriate for the age, which means that it is not a risk indicator. Processing speed is the ability to quickly and automatically process information. People with poor quality or lack of sleep that present alterations in processing speed may take longer to understand and process what they read.

Jeff has obtained scores that indicate that Cognitive Shifting is below of what is expected for their age, which can be a risk factor. The ability to change "shift" is the main component of cognitive flexibility. Lack of sleep or poor sleep quality weaken our ability to shift and generate alternatives to the same problem.

Jeff has received scores in the area of Naming that is appropriate for the age, which means that it is not a risk indicator. Naming is the ability to refer to an object, person, place, idea, or entity by its name. In order to name an object, it is necessary to access the brain's "dictionary", find the correct word, and produce it. Poor quality or lack of sleep may cause a deterioration in this skill, as the brain needs sleep in order to reach these words.

Jeff has received scores in the area of Short-term Memory that is below average for the age, which may be indicative of a cognitive profile compatible with some degree of cognitive decline. Short-term memory is the ability to maintain a small bit of information over a short period of time, like when you remember the beginning of a sentence in order to make sense of the whole time. The brain anchors and consolidates what you’ve learned during the day as you sleep. Poor quality of lack of sleep can significantly affect memory processes.
WORKING MEMORY
Score Received: 331
Jeff has received scores in the area of Working Memory that is below average for the age, which may be indicative of a cognitive profile compatible with some cognitive decline. People with insomnia often show a decline in working memory, which is the ability to retain and manipulate the information necessary to carry out complex cognitive tasks, like comprehension, learning, and reasoning. A deficit in this skill could imply difficulties remembering appointments or turning off the lights when you leave the house.

FOCUSED ATTENTION
Score Received: 529
Jeff has received scores in the area of Focused Attention that is appropriate for the age, which means that it is not indicative of a cognitive profile that is compatible with cognitive decline. Focused attention could be defined as the brain's ability to focus on a target stimulus, regardless of the duration. Poor quality or lack of sleep can affect the body's attentional system, causing errors at work, while driving, or in daily life. This is due to lack of concentration and increased tiredness.

COORDINATION
Score Received: 520
Jeff has received scores that indicate that the area of Response Time is appropriate for the age, which means that it is not a risk indicator. Response time is the ability to perceive and process a simple stimulus and respond to it, like answering a concrete question. People that have slow response time have more trouble when it comes to reading, writing, driving, or even speaking fluently. Sleep and response time are closely related, as lack of sleep or tiredness will significantly increase the time it takes to respond to a stimulus, delaying movements and reflexes.
Jeff has received scores that indicate that the area of Visual Perception is appropriate for the age, which means that it is not a risk indicator. Visual perception is the ability to interpret the information from one's surroundings that the visible light spectrum makes possible to reach the eyes. The brain's interpretation of this information is what we know as visual perception, sight, or vision. People with insomnia often have less efficient visual processing and make more visual mistakes.
EXECUTIVE FUNCTIONS AND INSOMNIA

Insomnia leads to a decrease of cognitive functions in a wide set of skills, like attention, memory, and mental shifting, among others. The cognitive symptoms of sleep alterations and disorders may have a profound effect on the ability of patients with insomnia to carry out daily tasks, and are factors that affect the ability to function on both an interpersonal and professional level.

IT IS POSSIBLE THAT JEFF:

WORKING MEMORY
- Has trouble remembering information without using abbreviations.
- Forgets where they left off after being interrupted.

FOCUSED ATTENTION
- Is able to concentrate easily and isn’t easily distracted.
- Completes what has to be done quickly and efficiently.

PROCESSING SPEED
- Thinks quickly.
- Doesn’t need things to be repeated twice.

SHIFTING
- Presents problems when coming up with new plans if one doesn’t work.
- Shows problems creating options or alternatives to a problem or situation.
Lack of sleep or poor sleep quality may lead to a possible decline in some executive functions, like inhibition, focused attention, processing speed, working memory, or planning. Jeff has received some scores in the area of executive functions that indicate that these skills are below average for his age, which may be an indicator of a cognitive profile compatible with mild cognitive decline. The executive functions that Jeff scored highest in are processing speed and focused attention, while the areas that need to be improved are working memory and shifting. This is why we recommend providing this information to a professional in order to make a more precise diagnosis.

**IMPORTANT** These results are not a diagnosis. This information cannot substitute a formal diagnosis given by a professional, but it can serve as a complementary tool to help make a comprehensive diagnosis.
CONCLUSIONS

Jeff shows a moderate risk compatible with insomnia in Clinical symptoms. This means that there may be a mild alteration in the cognitive profile or associated symptoms to insomnia or another disorder that has not been previously evaluated.

In addition to the interpretation of symptoms and cognitive profile assessed, the following criteria should be taken into account to ensure the validity of the diagnosis by a qualified professional:

**General criteria from the questionnaire that Jeff responded YES to:**
- Is right-handed.
- Didn’t used to feel like sad, dejected, or apathetic, and has been feeling like this for more than two weeks.
- Frequently uses a computer mouse.
- Frequently uses a tablet or touchscreen.
- Their body is free from substances (medicine or drugs) that may cause these cognitive changes and/or difficulties.

**General criteria from the questionnaire that Jeff responded NO to:**
- Uses hearing aids.
- Uses glasses or contact lenses.
- This lack of concentration, impulsiveness, and restlessness are sporadic.

See a professional to establish a more precise diagnosis, as the results show a possible compatibility with insomnia.

Start a cognitive training program to improve the "areas of improvement" shown in the cognitive profile and executive functions. CogniFit offers a series of clinically validated online games to train executive functions and other cognitive skills, helping to improve memory or attention.

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Please be sure that all of the questions have been answered carefully and correctly, and that the assessment was completed in a quiet room free from distractions, as this may alter results. The data in this report corresponds to a specific time in Jeff’s life and may vary over time.

COMMENTS