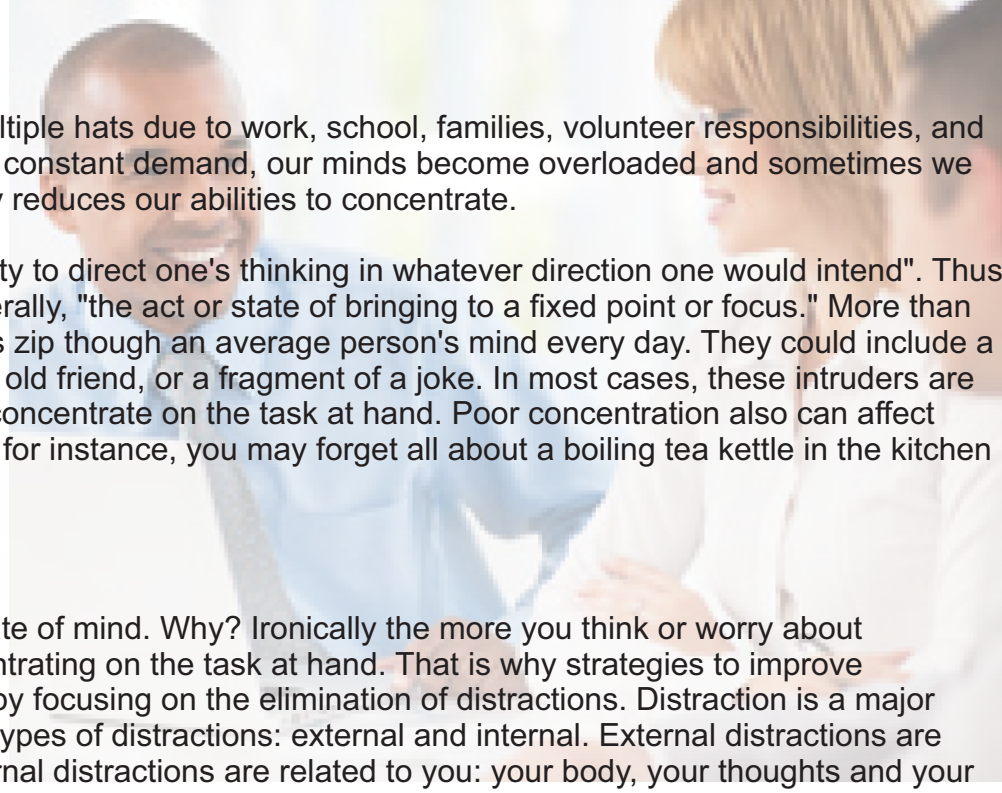


Sound therapy for concentration

Introduction

We live in a fast-paced era. People wear multiple hats due to work, school, families, volunteer responsibilities, and social and personal relationships. With such constant demand, our minds become overloaded and sometimes we find it difficult to concentrate. Stress radically reduces our abilities to concentrate.

Concentration has been defined as "the ability to direct one's thinking in whatever direction one would intend". Thus the word "concentration" is seen to mean literally, "the act or state of bringing to a fixed point or focus." More than 10,000 random thoughts and fleeting images zip though an average person's mind every day. They could include a snippet of a song, a momentary image of an old friend, or a fragment of a joke. In most cases, these intruders are quickly banished from the mind so you can concentrate on the task at hand. Poor concentration also can affect your memory. So if you're doing the laundry, for instance, you may forget all about a boiling tea kettle in the kitchen until the smoke alarm goes off.

Concentration

Concentration can be seen as an elusive state of mind. Why? Ironically the more you think or worry about concentration the less you're actually concentrating on the task at hand. That is why strategies to improve concentration usually approach it indirectly, by focusing on the elimination of distractions. Distraction is a major cause of poor concentration. There are two types of distractions: external and internal. External distractions are related to the physical environment and internal distractions are related to you: your body, your thoughts and your emotions. Music in the background is a popular strategy to reduce distractions as long as the music is not allowed to become a distraction. Studies show that listening to music can make people more likely to stick to a plan, activity or a fixed point or focus.

What is Concentration?

Concentration means to focus attention on one thing, and to one thing only. The art or practice of concentration then, no matter if studying biology or playing pool, is to focus on the task at hand and eliminate distraction. Quite often it is our way of life that takes away our former ability to concentrate fully. For example, one's mind wanders from one thing to another, your worries distract you, outside distractions take you away before you know it, or what you are doing is boring, difficult, and/or not interesting to you or your thoughts are scattered. Small children are very skilled in concentration. Children can get much absorbed in their play; yet we all have the ability to concentrate. Think of the times when you were "lost" in something you enjoy: a sport, playing music, a good book, a good game, a movie. This is total concentration.

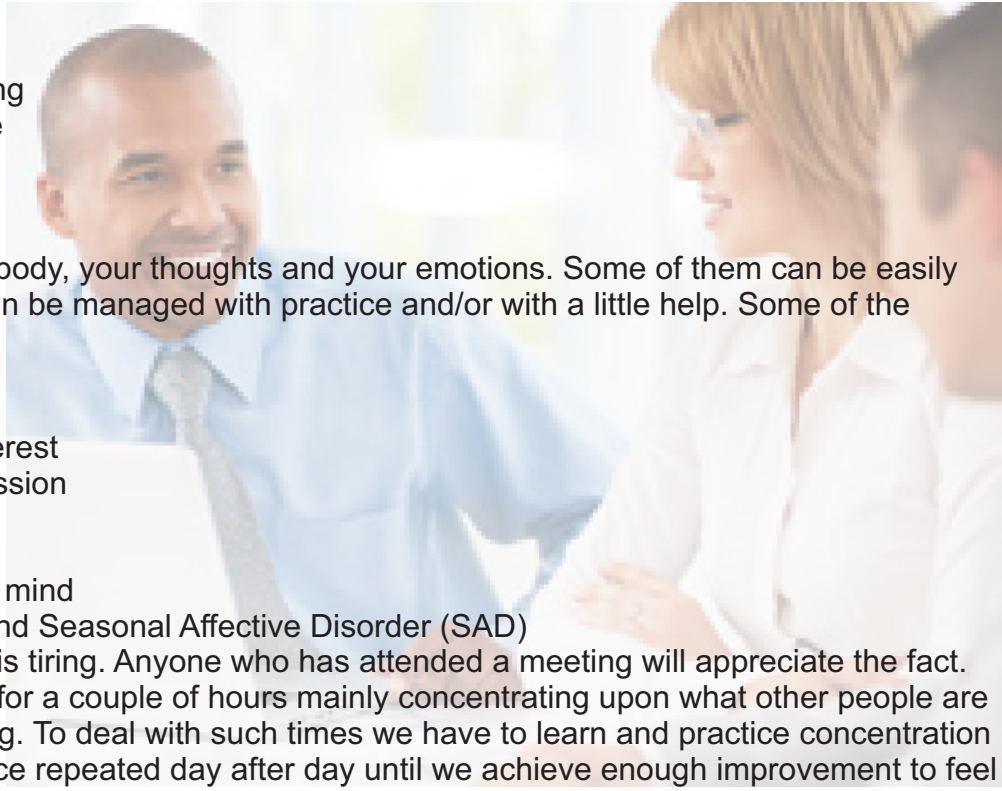
When people say that they can't concentrate it usually means that they cannot stay focused on one thing for as long as they would like. Most of us experience lapses in concentration every day. We are not usually concerned about it; we may not even notice these lapses in concentration. They only become a problem when we find that we cannot get things done as quickly as we would like, or when they cause us to make mistakes.

Factors That May Cause Poor Concentration

Stress does help concentration for a short period of time. This is because the body is dumping chemicals into the brain to help it focus and throwing adrenaline into the bloodstream in order to heighten the senses. This helps the body hone in on its tasks and helps it to focus. This is, in the beginning, a good thing. Short-term stress really does help your concentration at first, which is very useful when you need to hammer out last-minute paper for school, a report for your boss, or you need to quickly fix some computer problems that are keeping others from getting their work done. Unfortunately, the short-term effects do not last.

As you spend more and more time under stress, your ability to concentrate lessens. The brain will have fired off so many neurons that it cannot replenish its supply of chemicals that helps the neurons fire. As well, that boost of adrenaline that helps people focus will start to heighten the senses to the point where the brain notices every little thing around, causing you to be easily distracted. Distraction is a major cause of poor concentration. There are two types of distractions: external and internal.

External distractions are related to the physical environment of your study area. Once you have identified these distractions an individual can deal with them. Some of the common external distractions are:



Noise and conversations
Inappropriate furniture and inadequate lighting
Interruption from other people and telephone
Television
Work, paid or unpaid; housework
The Internet; email
Internal distractions are related to you: your body, your thoughts and your emotions. Some of them can be easily dealt with once they are identified. Others can be managed with practice and/or with a little help. Some of the common internal distractions are:

Hunger; tiredness; illness; and age
Lack of motivation; boredom; and lack of interest
Personal worries; stress; anxiety; and depression
Insomnia
Negative thinking
Daydreaming; mentally tired; and wandering mind
Dyslexia; Attention Deficit Disorder (ADD); and Seasonal Affective Disorder (SAD)
There is no doubt that mental concentration is tiring. Anyone who has attended a meeting will appreciate the fact. The process of simply sitting around a table for a couple of hours mainly concentrating upon what other people are saying is tiring. Driving a car for hours is tiring. To deal with such times we have to learn and practice concentration skills, and as with any skill this means practice repeated day after day until we achieve enough improvement to feel that we can concentrate when we need to.

The following three factors related to concentration from the list of distractions stand out and deserve further discussion because they impact such a large number of people.

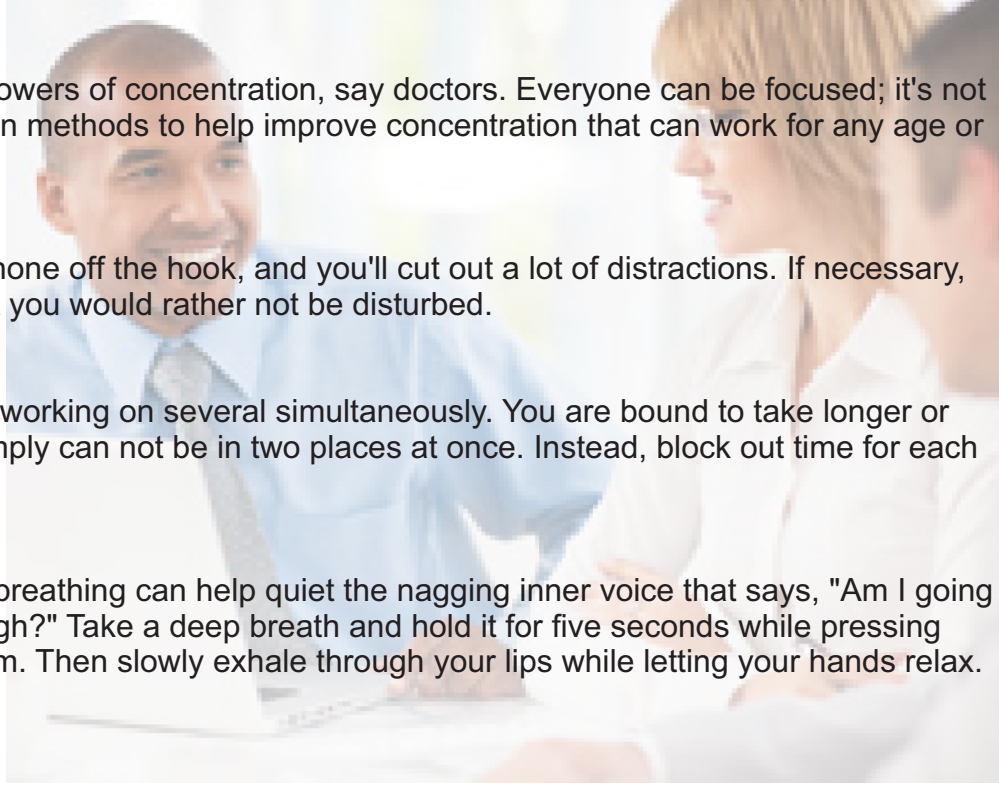
Age
It is known that older adults are more easily distracted. Changes in brain activity begin gradually in middle age causing older adults to have a harder time with concentration in busy environments, and are easily distracted by irrelevant information. This news comes from The Rotman Research Institute at Baycrest and the University of Toronto, where scientists compared brain function in young, middle-aged and older adults.

The study says these findings add to the growing belief by scientists that two regions in the brain's frontal lobes gradually shift into a “seesaw imbalance,” which causes older adults to become less efficient at blocking distracting information than young people are. Therefore, decreased concentration is inevitable in everyone as they age. To take this a step further, will there be a correlation between the baby boomers and decreased concentration? It has been found the baby boomers are showing chronic health conditions approximately 12 years earlier than people who were the same age 12 years ago. Does this mean the baby boomers will experience concentration deficits earlier than previous groups of people as they age? More evidence is needed on this, but is likely.

Seasonal Affective Disorder (SAD) – The Result of a Chemical Imbalance
According to studies from Columbia University over 25 percent of the population in mid to higher latitudes suffer from SAD. Symptoms include severe depression, lethargy, difficulty concentrating, reduced productivity and irritability. Experts have linked decreasing sunlight in winter to a chemical imbalance in the brain. The amount of light affects the natural release of melatonin, a hormone produced in the pineal gland that affects out internal clock; low light induces more melatonin and more sleep. Three common remedies used to assist SAD inflicted people are: light therapy, exercise, and music melodies/sounds.

Insomnia
According to the 2002 National Sleep Foundation (NSF) America poll approximately 74% of American adults experience sleeping problems, 39% get less than seven hours of sleep each weeknight, and more than one in three (37%) are sleepy enough that it interferes with daily activities. Women report insomnia more frequently than men and chronic insomnia increases with age. Lack of sleep saps your power of concentration, says Irene Colsky, Ed.D., adjunct professor of psychology and education at Miami-Dade Community College and president of the Colsky Associates, a firm offering learning and memory seminars. Some women find that they have a particularly hard time paying attention in the last months of pregnancy or during menopause, when insomnia is a common problem.

How Can You Learn to Concentrate Better?



Focus, focus, focus! You can improve your powers of concentration, say doctors. Everyone can be focused; it's not a gift given to just a lucky few. Here are seven methods to help improve concentration that can work for any age or situation.

Block Out Distractions
Shut the door, turn off the TV and take the phone off the hook, and you'll cut out a lot of distractions. If necessary, tell the people that you share space with that you would rather not be disturbed.

Do One Thing at a Time
It's difficult to focus on any one task if you're working on several simultaneously. You are bound to take longer or make more mistakes, because your mind simply can not be in two places at once. Instead, block out time for each task or project and tackle each in turn.

Take a Deep Breath
Anxiety can cloud your concentration. Deep breathing can help quiet the nagging inner voice that says, "Am I going to be able to finish this? Will it be good enough?" Take a deep breath and hold it for five seconds while pressing your hands and fingers together, palm to palm. Then slowly exhale through your lips while letting your hands relax. Do these five or six times until you relax.

Use Sound Machines
Some people have reported the use of sound machines to focus better and increase concentration. Experiment with background white noise/sounds. Go with whatever works for you to mask out sounds such as: street noise, television and stereos, tinnitus (ringing, buzzing in the ears, etc.), noisy appliances, barking dogs, noisy neighbors air traffic or conversation.

Surprise Your Brain
Activities that give your brain a workout such as reading books on subjects new to you, solving puzzles, learning new languages or instruments translate to sharper thinking, studies find.

After an Hour, Take a Break
Getting focused is one thing; staying focused is another. After a while your brain (and the rest of your body) needs a break. To refresh and refocus, take a quick walk around the block.

Have a Snack
Concentration wavers when your blood sugar levels fall, and frequent small meals keep levels steadiest, says Dr. Colsky. So if you're about to tackle a task that demands concentration, have a bite to eat: half a tuna sandwich, for example, or some other combination of protein and carbohydrate. Research suggests that a protein-carb combination keeps you more alert than protein or carbohydrate alone.

Concentration and Your Body

Your ability to concentrate at your optimal level depends on your entire body being healthy. The pressure of deadlines and expectations may lead one to ignore the needs of your body. However, the more you look after and respect your body, the more your body will do for you. The body needs adequate nourishment, rest, exercise and sleep; here are some tips:

A healthy, balanced diet is a must. Take time to enjoy your food; use mealtime to unwind. Avoid eating a big meal before a study session, or a meeting. Too much food will send your body into a 'rest' mode. On the other hand, don't starve yourself either. Frequent small meals are best.
A sudden high intake of sugar will cause your blood sugar level to rise and then drop sharply. Consequently, you may feel tired, drowsy and have difficulties in concentrating. Sugary foods are good for physical activities; they are not so good for mental work. For snacks, try fruits or nuts.
Drink plenty of water during a study session, especially when you feel sluggish
Caffeine may help you to stay awake, but it can increase your anxiety - use it in moderation.
Your body needs to rest and relax periodically every day. Regular breaks are essential for good concentration and memory. There is some research evidence to support the theory that catnaps promote concentration and memory. It is advised not to associate your bed with work by studying on your bed. Your body will get confused as to

whether the bed is for work or for relaxing.
Regular bedtimes discourage insomnia. If you must cut down on sleep, try to go to bed at your regular time, but get up earlier instead.
Regular exercise can improve your concentration. Choose an exercise that you enjoy. A regular exercise program, steady workouts of 45 minutes each, can also hone your power of concentration. When researchers at the University Of Pittsburgh School Of Medicine put women on treadmills and had them walk until they burned 350 calories, the women reported feeling more clearheaded afterward. This amounts to walking three miles in about 45 minutes, a rate of four miles per hour.
Exercise seems to improve the vital flow of oxygen to the brain. It can also help alleviate distracting anxiety and depression.

Very few students make it through high school and university without having to cope with issues causing concentration diffculties. Students experience even something as commonplace as a breakup with a boyfriend or girlfriend can cause a major disruption in the ability to concentrate. Also, irregular sleep, exercise, and eating patterns can be the unsuspected cause of concentration difficulties.

Many students do not realize the strong connection between physical health and intellectual functioning. Sometimes difficulties with concentration can be attributed to uneasiness about a course, a major, or just being at university. For the most part, these disruptions are short term, and the ability to concentrate normally returns quickly.

According to research presented at the 2005 March 24 conference, California's overall high school graduation rate is approximately 71 percent. The graduation rates for African-American and Latino students are even lower, 60 percent for Latino students and 56.6 percent for African-Americans. "Large urban school districts in California have become ‘dropout factories'," said Gary Orfield, Director of the Civil Rights Project at Harvard University and author of the new book Dropouts in America: Confronting the Graduation Rate Crisis.

The economic and social impacts of this dropout crisis are too enormous for Californians to ignore. The State must make schools accountable for graduating their students and provide resources to help students whose careers would be wrecked by leaving school.” Although there would be many reasons for the high school drop outs mentioned from this research, it seems prudent that students learn how to study, concentrate and memorize their studies.

The Wayne State University at the National Center for Academic Transformation, Saratoga Springs, New York confirms that many students arrive at the university unprepared and therefore require greater attention. From fall 2000 to winter 2004, of the students who took Beginning Algebra, 28% withdrew and only 39% of the total passed. Of those who took the final, only 53% passed. Lack of concentration is one of the frequent complaints among students.

Because of the growing problem of students leaving school or university before completion it seems prudent to focus on good study habits for this huge population of young people.

Following are some key points to maintain concentration while studying:
Get into Good Habits for Studying StudyStudy at the same time and at the same place, devoted to study only. This helps you to associate the time and place with studying and concentrating. You will find that you get into a habit of studying as soon as you sit down. You can carry out a small ritual at the start of every study session, such as taking out a figurine, wearing your study cap, or putting up a sign. This helps to tune your body into a study mode when you carry out the ritual. It also serves to tell others that you are studying and that you should not be disturbed. Do not choose an activity, such as reading your email or checking the stock market that may lead you to procrastinate or distract you

Prepare Your Mind
Avoid exciting activities just before you start to study. At the beginning of a study period, spend a few minutes to calm and relax your mind and body. Be positive! Believe in your ability to overcome any challenges.

Approach Study Effectively
Spend a little time to plan what you are going to work on. Be precise and realistic. 'I am going to work on my assessment' is not very helpful… 'I am going to spend the next two hours gathering notes on commercial contracts for my assessment. I'll work on chapter two of this book first, and if I have time, I'll start on chapter five' is much

better. Break down your work into small manageable chunks, and then focus on a smaller task. Writing a paragraph is not as scary as writing an essay.

Be Active
Vary your activities to keep your mind from wandering: make notes, highlight, underline, ask yourself questions, prepare questions for discussion, associate new material with old material, visualize a concept, etc. Change the subject/topic you are studying every two hours or so to maintain your interest.

Take Regular Breaks
Reward yourself! It is important to take a break before you feel tired and lose your concentration completely. Regular breaks at least once an hour helps to sustain your concentration. If the work is not going too well and you have difficulties in concentrating, you may need a long break and go back to it later. Alternatively, you can try working for shorter period of time, such as 20 minutes, and have more frequent short breaks.

Plan regular breaks! Most people's concentration is radically reduced after 20-30 minutes. Get rid of the initial distractions, study for short periods of time and take five minute breaks.

Oxygenate
When you sit for long periods, gravity draws the blood to the lower part of your body. When you take a break, take a few deep breaths and get more oxygen to your brain: try walking around and doing some light stretching for a few minutes. It will help to release tension in your body, and help your circulation. If you have been working on a computer, relax your eyes by focusing at a distance, and relieve your eyes from the glare of the computer by covering your eyes with the palm of your hands for a moment.

Review – The secret of Good Memory
Concentration and memory work together but one does not lead to the other. To concentrate is to direct your mental powers or your efforts towards a particular activity, subject or problem. The secret of good memory is frequent review and recall. As the saying goes, "If you don't use it, you lose it." After a break, spend a moment to remind yourself what you worked on. Going over the main points is sufficient. Do the same at the end of a study session, and recap on the main points. The feeling that you have achieved something will help to motivate you which in turn will help with your concentration.

Memory is the ability to remember information, experiences and people. There are some specific skills that can be learned to enhance both concentration and memory. Practicing these skills is likely to improve one's success as a student.

Older Adults Have Poor Concentration

As one gets older, it becomes harder to filter out distractions and stick to a project, organize your thoughts, or follow the flow of a conversation, says Richard Restak, M.D., clinical professor of neurology at George Washington University School of Medicine and Health Sciences in Washington, D.C, and co- author of “The Longevity Strategy: How to Live to 100 Using the Brain-Body Connection".

Changes in brain activity begin gradually in middle age and may explain why older adults have a harder time with concentration in busy environments, and are easily distracted by irrelevant information. This news comes from The Rotman Research Institute at Baycrest and the University of Toronto, where scientists compared brain function in young, middle-aged and older adults. It's known that older adults are more easily distracted. The study shows that they have found a mechanism in the brain to explain this and generated new insight into when in the lifespan these brain changes begin to occur," says senior Rotman scientist and lead author Dr. Cheryl Grady.

The study says these findings add to the growing belief by scientists that two regions in the brain's frontal lobes gradually shift into a “seesaw imbalance," which causes older adults to become less efficient at blocking distracting information than young people are. Concentration ability declines with age; the study found significant differences between concentration abilities in old and young people.

In younger adults, activity in the dorsolateral prefrontal cortex (associated with tasks that require concentration, such as reading) normally increases during the task, while activity in the medial frontal and parietal regions (associated with non-task related activity in a resting state, such as thinking about yourself, what you did last night, monitoring what's going on around you) normally decreases. Dr. Grady's team reported that starting in middle age

(40-60 years) this seesaw pattern begins to break down during performance of memory tasks.

Activity in the medial frontal and parietal regions stays turned on while activity in the dorsolateral prefrontal cortex decreases. This imbalance becomes more pronounced in older adults who could explain their reduced ability to ignore distracting or irrelevant information.

In summary, by researching articles we have learned that people of all ages experience a lack of concentration at certain times. Children have the best means to ‘block' out other distractions around them with their solid play and imagination. On the other end of a life, the older people have greater difficulty concentrating, filtering out distractions, sticking to a project, organizing thoughts, or following the flow of a conversation.

People of all ages' experience some concentration loss, especially if the body is feeling taxed. When your attention takes a detour, the culprit may be one type of distraction or another; worry, stress, hunger or the cat scratching at the screen door. If you can't concentrate, it's hard to get anything done. This paper has provided some notions to what people of all ages can do to improve their concentration. The first thing is to admit “there is a concentration problem"; only then can strategies be put in place to make the necessary changes.

References:

Wayne State University. National Center for Academic Transformation. Saratoga Springs, New York. Copyright, 2005.

Recommended Reading Bourner, T & Race, P (1995) How to Win as a Part-time Student (2nd ed) London: Kogan Page

Cottrell, S (2003) The Study Skills Handbook (2nd ed) Basingstoke: Palgrave

Jeffers, S (1991) Feel the Fear and Do It Anyway (Arrow edition) London: Arrow

Markham, U (1995) Managing Stress: The Stress Survival Guide for Today Shaftesbury: Element

OBrien, S. Your Guide to Senior Living. The Rotman Research Institute at Baycrest and the University of Toronto

University of Cambridge Counselling Service 1999 (revised Sept 2004)