



GUIDE TO ACHIEVE INTERNATIONAL ADVENTURES

**Scientific background**



**HoviAcademy**  
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Expertise  
and insight  
for the future



## G.A.I.A.

### GUIDE TO ACHIEVE INTERNATIONAL ADVENTURES

- Culture and activity guide: nature elements supporting seniors' well-being
- Making travelling and nature experiments possible indoors
- Finnish knowledge into Singapore's eldercare
- Combining five senses, adventures and five seasons virtually
- Inspired by nature, proven by science

#### THE VIRTUAL GUIDE FOR ELDERLY CARE

Easy access  
Five themes, five countries  
Versatile physical and psychological activation with nature adventures  
Safety, wellness, senses, activity and exercise together  
Multiprofessional aspect

Japan – spring  
Chile – autumn  
Spain – summer  
Ethiopia – eternal summer  
Finland – winter

- Multidimensional day-activity-guide in the elderly care center
- One day focuses on a single country theme and offers suitable day-activities and sensory experiences
- Possibilities for seniors to travel and exercise in nature are limited
- We aim to make nature and travelling experiments possible for elderly people in Singapore

- Nature revives by reducing stress and improves concentration
- The reviving effect can be measured physiologically
- Heartrate decreases already in 15 to 20min
- As the heartrate decreases the parasympathetic nervous system activates
- Digestion betters, blood pressure and stresshormones decrease

*Travelling broadens,  
Nature revives,  
Exercise fortifies!*

**G.A.I.A.**



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# G.A.I.A. - Scientific background

## BENEFITS OF EXERCISE

Exercise benefits the health of seniors in many ways, and it has a preventative effect on illness. Through training, the senior can get a feeling of accomplishment, boosting their self-confidence and letting them step away from daily routines even if just for a bit. Exercise relieves fatigue, lethargy and stress, and affects relaxation, giving a feeling of refreshment. Also, seniors turn to exercise for joy, social contact, empowerment and outside activity. (Isomäki)

Ageing brings along many changes to how the body functions. There's a decline in muscle mass, which lessens the physical strength of a person. There are changes to how the body accepts oxygen and the vitality and function of the heart and lungs decline. Exercise plays a vital role in maintaining physical performance, which in turn allows the senior to live independently for as long as possible. Training can slow down the changes that come with age and helps maintain a sense of balance. (Isomäki)

Nordic walking is an endurance exercise. It has positive effects on the heart and respiratory system, high blood pressure, glucose metabolism, muscle strength and physical performance. On the other hand, tai chi, for example, develops muscle power. Muscle power influences to survive the daily chores, for example, stair walking and getting up from a chair. (Anttilainen).

## THE BENEFITS OF THERAPEUTIC ACTIVITY

According to researches, therapeutic activity promotes learning and recovery and shapes the brain. It creates positive experiences that encourage skill development and distract attention from unpleasant things, such as experiencing pain. There is neurophysiological evidence that the use of hands itself is therapeutic. (Hagedorn 2000: 68)

## THERAPEUTIC BENEFITS OF PLANTS AND HANDCRAFTS

Health benefits: Practicing ikebana reduces stress and anxiety levels, as shown in the study "Effects of Practicing Ikebana on Anxiety and Respiration" by Ikuo Homma, Reito Oizumi and Yuri Masaoka. The study group with high anxiety levels reported lower anxiety levels and blood pressure after practising ikebana for about an hour.

Plants therapeutic use affects human social, physical, and mental health. (Harjula, Yli-Eerola, 2011) Planting, growing and caring for plants is a therapy for the elderly. It improves orientation to time and place. The activity happens on the terms of the elderly person, and it provides new experiences, pleasure and experiences of success. Planting makes the person an active participant, and when the plant grows, they can see the achievement of their own hands. Plants also bring joy and experiences of beauty while helping develop an eye for aesthetics and emotional wellbeing. Connection to nature has been found to improve concentration, to

provide positive experiences, to increase the feeling of unity and to reduce anxiety and aggression. (Harjula, Yli-Eerola, 2011)

Handcrafts are important for a person's self-confidence. When a person sees the result of their work, they feel a sense of accomplishment. (Mielonen, Niskanen 2011)

## VIRTUAL NATURE

Lately, studies have demonstrated that viewing video or photographic images of nature reduce stress, improves mood and reduces negative impact. Studies have shown better benefits when viewing pictures of nature and actual nature scenes, compared with viewing urban images and scenes. (Reynolds, 2018)

Journal of housing for the elderly has published a study, that is one of the first studies that examine the effect of virtual nature experience on the emotions and associated behaviours in dementia, which causes stress for themselves and their nurses. Although direct contact with nature is preferred, this study shows that a virtual nature experience can reduce stress and negative emotions and increase pleasure with very little involvement. The research indicates that watching nature images did decrease the heart rate significantly. Also, agitation and anger declined. (Reynolds, 2018)

## THE BENEFITS OF DANCING

Dancing is a fun activity that anyone can enjoy. Besides being lots of fun, dancing is good for you, both physically and mentally. Senior dance refreshes the mind, exercises memory and offers joyful togetherness. Dance provides an excellent opportunity to support the functional capacity and quality of life of older people. (Ikäinstituutti 2015). Studies show that social dancing in the care of demented elderly people can highlight the resources of the elderly and increase positive emotions and behaviour. Dance also enables the sensation of joy through learning.

Dance therapy has shown to have a positive effect on the linguistic abilities and willingness to interact with the elderly with dementia. Dance and movement can also replace speech. Both participation in dance and visual observation activate can raise the level of older people's activity. (Ravelin 2008: 52). Dance promotes social interaction and physical fitness, such as balance, fluency, joint mobility, respiratory and cardiovascular function, posture and movement (Ikäinstituutti 2015). Social dance performance evokes a wide range of emotions, thoughts and memories that may have therapeutic implications (Ravelin 2008: 52).

## WHY COOKING AND BAKING IS THERAPEUTIC AND GOOD FOR THE MENTAL HEALTH?

Cooking and baking meet the criteria of a type of therapy known as 'behavioural activation', which are activities that alleviate depression by increasing goal-oriented behaviour and reducing procrastination. This is why psychologists now believe cooking can be classed as therapeutic.

On a more scientific level, a new study published in the Journal of Positive Psychology found that people who often take on small creative projects such as baking or cooking reported feeling more relaxed and happier in their day-to-day lives.

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