

Nature and Horses

Resources for Human health and wellbeing



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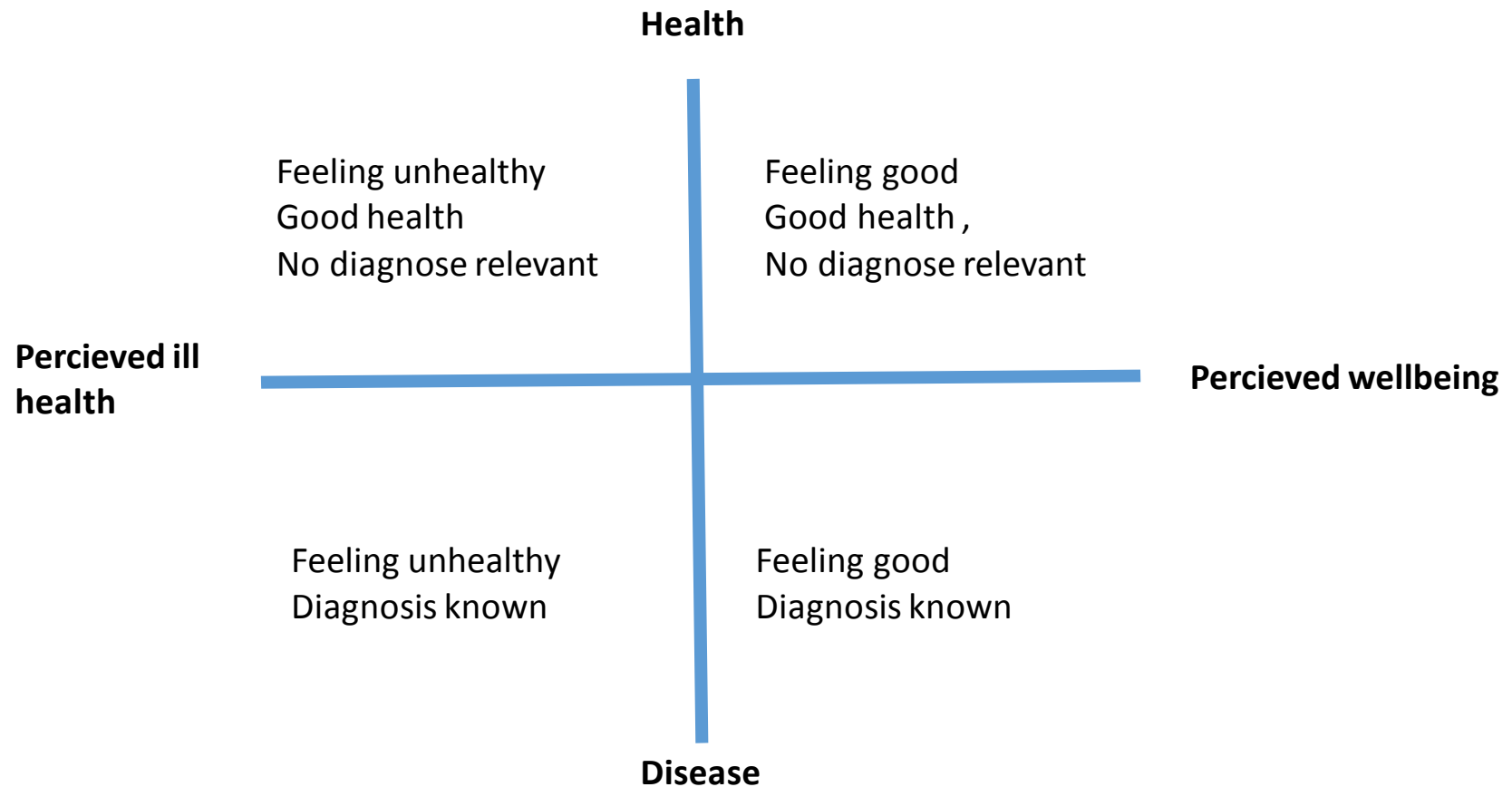
Levi, Finland, 30-31/8 2017



Disposition

- Background
- Definitions
- Theories
- Horses
- The use of nature and horses at "Lunna" - "Gothenburg ridingclub of the disabled"
- Summary

Health and wellbeing - different aspects



Human bodily demands for health

- Basic needs like food, drink and shelter met
- Body contact
- Body movements
- Social life
- Ambulation ability
- Freedom to think and speech
- Physical activity

Originated from:

Occupational therapy in
psychiatry

Elderly with
Dementia
Burn out syndrome
(1990-ies)

Stress

Farm

Forest

"Green" rehabilitation

Garden

International
terminology

Research area

HT

Green care
Farming for
health

Nature

and

Health

N
A
I

Functional disability

Physiotherapy
Neurology, rehabilitation
(1950 -ies)

Children
and
Grown ups

Therapeutic riding

Riding therapy

Equine Assisted Therapy

Hippotherapy

Voltige
Driving

Care

EAT

EAPT

EAMH

EAL

EAW

Motivation and relation

Psychology
Medicine
Veterinary medicin
(1960-ies)

Children
Elderly

Dogs

Birds

Cats

Rabbit

Animal Assisted Therapy

Hens

Horses

Fish

AAA
AAT
AAI

Margareta Håkanson 2009, rev 2017

Some relevant theories

- Theory of supportive environment (Grahm) - nature
- Theory of enriched environment (Ericsson, Johansson) - animals incl human animals
- PET Psycho evolutionary theory (Ulrich)
- ART Attention restoration theory (Kaplan)
- Attachment theory (Bowlby)
- Theory of Basic Neurobiological an Psychological effects from HAI (Beetz, Uvnäs Moberg et al)

Theories on positive effects from Nature

1 The role of nature on human **well being**

a) common history of evolution – man and domesticated animals, b) the interpretation on environment by the human brain, c) structural similarities of bodily organs animals and humans, d) stimulates physical activity levels

2 The influence from nature on human **functioning**

a) Multimodal sensory stimulation, b) restoration and recovery from stress c) enriched environment d) stressreduced environment



We do not know very much about the role of animals in how nature is experienced



But robotic animals and virtual nature experience seem to have less influence on Parasympathetic reactions

i.e less influence on **restoration and recovery** than real life nature.

What will an Animal add to "Natures" influence?

- Relations
- Body contact
- Visual cues on possible danger or calmness
- Sounds and voices - oral cues on danger or calmness
- A living creature in need of care
- Joyful movements to react upon
- Movement influence

Horses - history and characteristics



Photo: Anna Lundberg

What is a horse?

- A flight prone, group living, prey animal
- Originating from the same nature type as humans
- During evolution adapted to humans
- Historically a human resource for covering distances -carried man and materials
- Human resource for power and conquer - Djingis Kahn, conquistadores, cavallery,
- Close to the Gods - Pegasus, Sleipner, greece temples statues
- Workmate in farming
- Sportsmate
- Resource for human health



Working horses
of yesterday and
today!

Photos: Anna Lundberg



Why do we like working with horses?

- Long common history
- Easy to feed and breed
- Easy to understand?
- The horse can understand us?
- Horses are sensitive to our signals and easy to train
- Big animals, we feel powerful
- Physical wellbeing from riding and handling
- Tool (work, sport, show)
-Others.....

Easy to understand?



Attention and multimodal sensory signaling; visual, tactile, olfactory and vocal



Clear signals of peaceful and calm surroundings - offers restoration from stress

Basic needs - for horses as for humans/mammals

- Eating
- Resting/sleep
- Body contact in early infancy
- Ability to move towards or from something
- Play/social interaction with friends
- Reproduction

Some characteristics of Human - Horse interaction

- Multimodal: visual, tactile and vocal signals are used.
- Human feelings and attitude influence responses showed by horses (Hama et al. 1996, Chamove et al 2002)
- Foodreward is positive for horses - while scratching and patting is not necessarily rewarding (Hausberger et al 2008)

Some characteristics of Human - Horse interaction

- On ground, bodily communication between horses and humans are based on visual, vocal, olfactory and tactile cues just like horse-horse communication

BUT

- It is NOT natural for a horse to carry someone on its back
- The horses body is NOT constructed to carry an additional weight on the frontlegs, as happens in horse back riding
- It is NOT natural for a horse to understand spoken words

BUT THE HORSE COOPERATE with humans ANYWAY!

(Hausberger et al 2008)



Humans and Horses share patterns of survival reactions

- Brain structures and functions
- Attachment/bonding characteristics
- Stress reactions
- Ability to read non verbal signals of danger and of calmness

Both Humans and Horses are prey animals - and react according to primitive survival patterns

Human Brain and information processing

Directed Attention (cortex)

(DAT) energy demanding process to discriminate cues from the environment

Cortex (4 bilj years old) -

- Directed attention,
- Cognitive functions,
- Willpower
- Sensitivity
- Logic

Limbic system (50 bilj years old)

- Survival in the long run ie
 - Hormones Memory
 - Emotions Sleep
 - Blood pressure Homeostas
 - Heart rate Digestion

Soft fascination (limbic and brain stem)

Energy saving automatic processing of cues regarding danger in the environment

Brain stem reactions are influenced by **movements** and **hormones** - and not by thoughts

Brain stem (200 bilj years old)

- Survival reactions ie Defence-, dominans-, threat- and mating behaviour

A horse affect humans stresslevels

- As nature
- A a relating social individual
- As a touching (tactile and emotional) individual
- As a creator of coherence

And it can both **increase** and **decrease** stresslevels in humans

- "If you can calm a horse - you can calm yourself"

Horses as human health resources

- Influence on humans physically and emotionally
- Large animals - can carry humans
- Long lasting moments of touch on a large surface while riding
- Can compensate for lost functional abilities
- Create various opportunities for physical activity on and around the horse
- Sensitive to non verbal signals

Animal influence on humans in therapy

Positive influence on humans	All animals wild and tame	Domesticated animals	Dogs (group living predators)	Horses (group living prey animals)
Stress regulation	X	X	X	X
Physical activity level, indirect	X	X	X	X
Physical activity level, direct				X (movement influence in walk, trot, gallop)
Motivation to participate	X	X	X	X
Building relations	occasionally	X	X	X
Direct influence on body balance				X
Direct influence on body awareness				X
Direct simultaneous influence on body functions, (physical, mental and emotional)		(X) partially	(X) partially	X
Compensate for loss of function			X	X

Exclusive influence on human body from the horse compared to companion animals in general

When on horseback - by longlasting touch over a large area of the riders body

- by transformation of movements to the body of the rider



- Challenging balance, stabilisation and coordination of the riders trunc in acceleration, deceleration and centrifugal force while moving in space

Trust is built between horse and rider - and between rider and staff as a side effect - release of oxytocin



Horse activities are truly inclusive; gender, age, ethnicity and functional ability

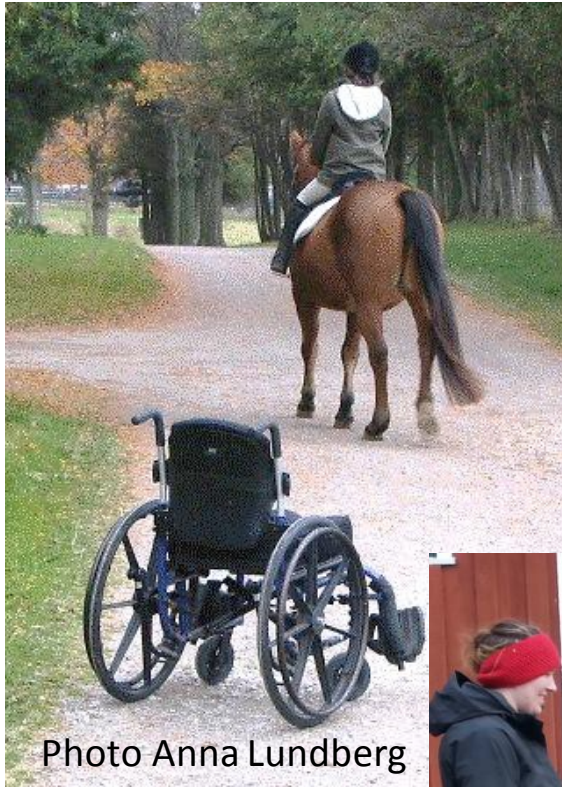


Photo Anna Lundberg



Demands on the horses ability - riding in general

- Allowing to be tacked - in mouth and on back
- Balancing itself and its rider standing still and moving around
- Rythmical even movements
- Understanding the humans signals
- Handling stressful situations
- Supressing flight reactions

More demands on the horses ability
in therapy or in



adapted leisure riding



Horses and Nature -
recreation, restoration and
rehabilitation!



Welcome to Lunna

Göteborgs Ridklubb för Fungerande



A riding club providing
leisure riding for able-bodied and disabled
riders, equine assisted therapy and adapted
leisure activities with horses in a natural
setting

The farm house

- Is the heart for humans, an indoor place for staff, riders and visitors
- The stone barn from around 1700, the main building from early 1900



The yard - the centre of the farm -
where everybody passes through





Animals

Big horses and small horses
But also
Cats, dogs, goat, sheep,
and wild animals as deers, elks
and lots of birds



Leisure and work



Humans

Riders and helpers
Staff in the stables
Instructors
Therapists
Family members



- On the horses
- Wait for the last one to mount
- Off we go !



Riding lessons &
Therapy - same
structure

Adapted leisure riding





Indoor- and
Outdoor arena
close to the yard
surrounded by
the forest





All the year
around

Walking the
horses

Long reining them

Or riding





Obvious signs
of rest and
peace



Riding trails broad enough for helpers to easily walk beside the horse



And narrow trails in the deep forest



Birch trees and rural landscape



Flat land, grazing areas and
widespread hills

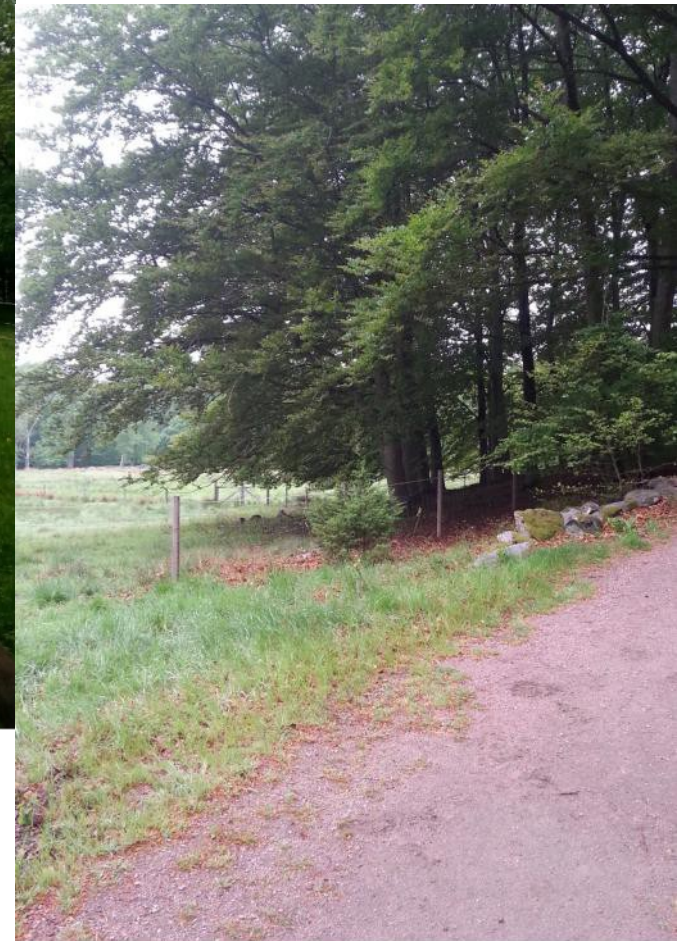




Pine trees
and solid
rocks



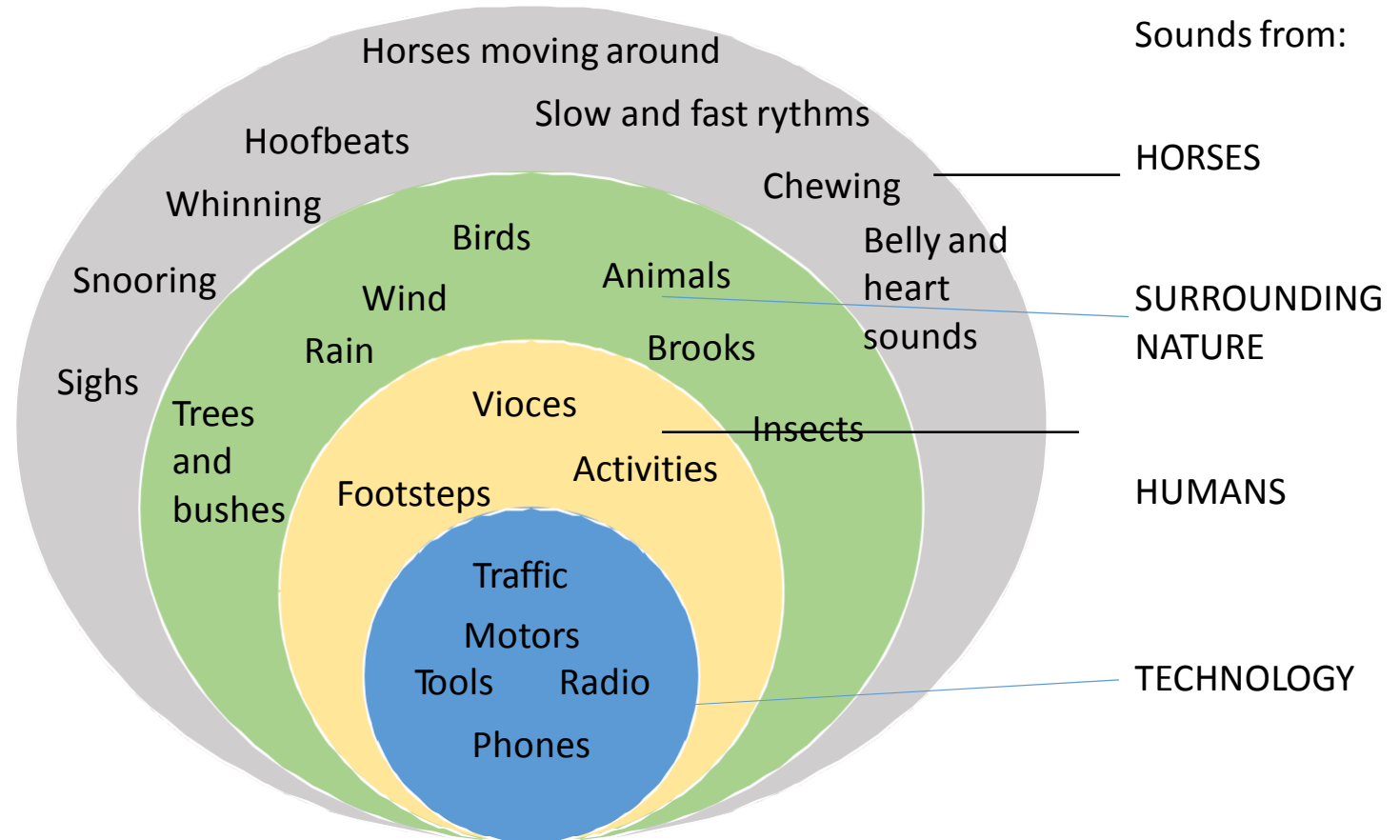
"Rooms' view with different characteristics
nature for
restoration



The landscape

- Old culture, rural landscape -changing around the year
- Sandy narrow roads without traffic - motor traffic far away
- Fields, forest meadows, grazing horses and sheep,
- Forests of different characters, pinewood and deciduous forests, old and young trees
- Solid rocks, gorges
- Valleys and hills
- Streams and ponds
- Offers a variety of characteristics for frail persons restoration

The soundscape



The "smellscape"

- From **horses**: dung, urine, different body parts smell, farthing, sweat
- From **horses tacks and surroundings**: leather, cloth, tack-details, horsenails while having their feet done, tackroom, stable and outdoor-area
- From **surrounding nature**: smell of rain, sunshine, cutted grass, flowers, wet dogs and cats
- From **humans**: in the house - coffee, kitchen smells in general
- From **technology**: exhaust gas from tractor, cars and chainsaw

Self rewarding and purposeful activities

- Caring
- Promoting relations
- Proximity without demands
- Being needed
- Coherence



Health promoting Characteristics at Lunna

Culture

Nature

Animals incl humans

Physical activity

Relations

Coherence

Multimodal cues

Self rewarding activities

Enjoyment

Rythm

Nature sounds



Outcome from Equine Assisted Interventions at Lunna



Enriched environment, restorative surroundings,
human animal interaction or effects from the
horse?

Some relevant recent studies

- Cerwén, G. Pedersen, E. Palsdottir, AM. (2016) **The role of Soundscape in Nature Based Rehabilitation: A Patient Perspective**. Int. J. Environ. Res. Public Health 2016,13,1229;doi:10.3390/ijerph13121229
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- Beetz A, Kotrschal K, Uvnäs-Moberg K, Julius H. (2013) **Basic neurobiological and psychological mechanisms underlying therapeutic effects of Equine Assisted Activities (EAA/T)**. HHRF grant 2011. Public report. Published in the Journal of Occupational Therapy, Schools and Early Intervention, 2015.



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Thank you
for your attention!

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