Nature and Horses
Resources for Human health and wellbeing

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Disposition

• Background
• Definitions
• Theories
• Horses
• The use of nature and horses at “Lunna” - “Gothenburg riding club of the disabled”
• Summary
Health and wellbeing - different aspects

- Feeling unhealthy
  - Good health
  - No diagnose relevant

- Feeling good
  - Good health
  - No diagnose relevant

- Feeling unhealthy
  - Diagnosis known

- Feeling good
  - Diagnosis known
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
Some relevant theories

- Theory of supportive environment (Grahn) - 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) stress-reduced 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 Parasympaticus 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
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....
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 front legs, 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

**Soft fascination (limbic and brain stem)**
Energy saving automatic processing of cues regarding danger in the environment

**Limbic system** (50 bilj years old)
- Survival in the long run ie
  - Hormones
  - Emotions
  - Blood pressure
  - Heart rate
- Memory
- Sleep
- Homeostas
- Digestion

**Brain stem** (200 bilj years old)
- Survival reactions ie
  - Defence-, dominans-, threat- and mating behaviour

Källa: Sahlström Erik, SLU Alnarp
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

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

Gothenburg Ridingclub for the Disabled
A riding club providing **leisure riding** for ablebodied 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
Leisure and work

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

**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
"Roads viewed with different characteristics in the 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

Horses moving around
- Slow and fast rhythms
- Chewing
- Belly and heart sounds

Horses

Surrounding nature
- Wind
- Rain
- Birds
- Animals
- Brooks
- Insects

Voices

Activities

Footsteps

Trees and bushes

Snores

Sighs

Hoofbeats

Whinny

Traffic
- Motors
- Tools
- Radio
- Phones

Humans

Technology
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


Thank you for your attention!

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