



# Dunov

iPod coach  
for people with autism

**S.M.H. Timmer, Dr Leo Kannerhuis**

# Dunov: digital coach

- **Dr. Leo Kannerhuis**  
Organisation & ASD
- **Digital coaching**  
Why & How
- **Trial**  
Design & Results
- **Future**





# Dunov: Dr. Leo Kannerhuis

Specialist treatment centre and knowledge institute for people with ASD

- Providing optimal specialist care
- Diminishing developmental stagnation and stimulating personal growth
- Maximum personal development and social independence



# Dunov: Dr. Leo Kannerhuis

## Treatmentcenter

Residential treatment

day-care treatment; intense and less intense

Age 6-80 yrs, now developing 0-6 yrs

## Knowledge centre: Research & Development:

Research

Innovation

Education of professionals



# Dunov: Autism Spectrum Disorder

ASD: problems with information processing and integration

- Executive functions:
  - Keeping the overview
  - Planning and organisation
- Central coherence:
  - Focus on details
  - Problems with generalisation
- Theory of Mind
  - Lacking empathy and imagination



# Dunov: Daily life skills

- **Level of functioning on daily life skills**
- **Disharmonic profile (VABS):**
  - Daily life skills vary
  - variations within a domain of functioning
- **Developing practical independence**  
usually not spontaneous, not even at a higher age
- **Intensive skilltraining: method Daily life skills**  
(Palmen & Josselin-de Jong 2004)
  - Measuring skill level and necessary level of guidance
  - Task analyses/ flowcharts
  - Technical/theoretical and practical training



# Dunov: ASD & daily life skills

## Daily impact on independence

- Limited Mobility:
  - Education and work: unemployment benefits
- Household tasks:
  - Shopping for groceries, cooking, washing etc.
  - Need for assisted living/lifelong living support

**Dunov**, digital coaching, anytime & anywhere;

To empower, offer support and improve problem solving skills, lifelong, on all living areas

# Dunov; education

- Supporting dialogues on iPod;
  - Specific topics: travelling with public transport
  - Based on training method daily life skills and life domains
- Planning support PT
- Problem solving PT





# Dunov; education

What is going on?

I am late for school

My exam is delayed

My schedule has changed

Ask 5 minutes for  
consulting the genitor:

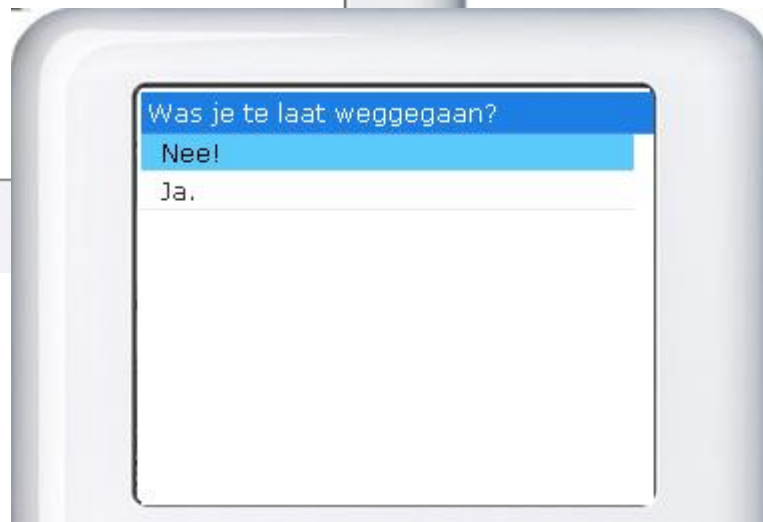
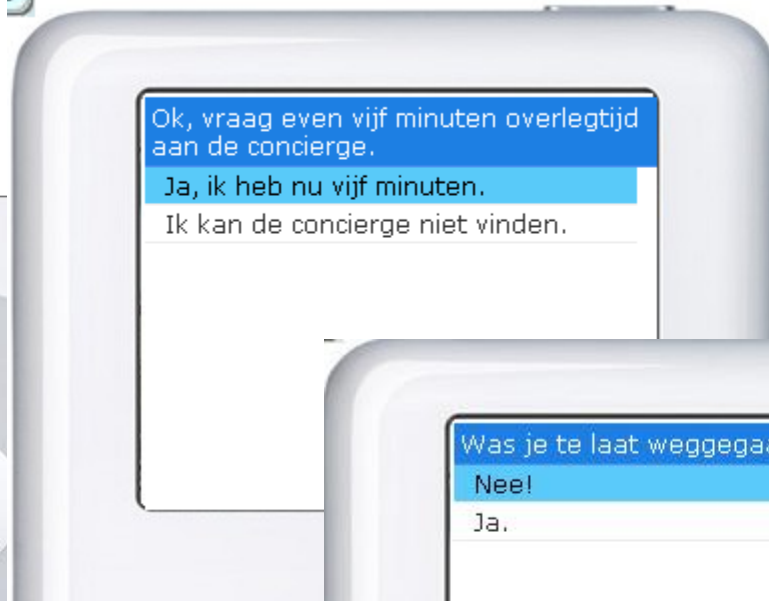
Alright, he's got 5 minutes

I can't find him

Did you leave  
home to late?

No

Yes





# Dunov: Reality & Results 1

A small trial, proof of principle

- Experimental group  $n=5$  (4 completed)
- Control group

Control on effect attention/stimulating  
Travelling with PT ( $n=2$ )



# Dunov: reality & Results 2

1. Wellbeing/ quality of life
  - mental wellbeing (rand 36)
2. Clinical results
  - Gaol attainment (GAS)
  - Amount of voyages with PT (bus/train)
  - Experienced tension while travelling
3. Cost effectiveness
  - Amount of taxi transport
4. Client satisfaction
  - Evaluation questionnaire



# Dunov: reality & Results 3

## Time table

week 1

week 4

week 8

<b>Introduction</b> 1. Information 2. Current behavior - registration amount of voyages - questionnaire traveling behavior	<b>Screening</b>  Measuring level of independent functioning	<b>Training</b>  Training digital coach
--	--	---

<b>Independent travelling</b> 4 weeks with digital coach  First and last week: - registration amount of voyages - questionnaire traveling behavior
---



# Dunov: reality & Results 4

- client 1
  - Travelling indepent more often ( 0 up to 13 times a week)
  - Improvement of mental wellbeing
  - Less use of taxi
- client 2
  - Travelling indepent more often (0 up to 12 times a week)
  - Less transport by parents needed ( 7 to 1 a week)
- client 4
  - Improvement of mental wellbeing
  - Experiences less tress while travelling

Control group:  
No changes



# Dunov: reality & Results 5

## Evaluation clients

- User-friendly?

*Is the digital coach easy to use?*

- 2x very easy / 1 x easy

- Effectiveness

*Does the information help you while travelling?*

- 2x often / 1 x sometimes

- Frequency of use

*How often did you use your digital coach while travelling?*

- 1x always / 1x sometimes / 1x never



# Dunov: reality & Results 6

## Evaluation parents

- Diminished emotional burden / less help needed

*Due to the use of the digital coach? Yes!*

- 1-4 x/week less taxi rides
- 1-4 x/week less car transport needed
- 5-8 x/week less car transport needed
- I don't have to accompany him while travelling (2x)
- Less help needed with planning his journeys
- Fewer calls for support/help



# Dunov: digital coaches

Thank you for your attention,

Questions?

[www.dunov.com](http://www.dunov.com)

[digitalcoach@dunov.com](mailto:digitalcoach@dunov.com)

Sponsored by  
City of Nijmegen: KCR Nijmegen  
Nuts Ohra, zorgverzekeraar.