

Aggression Replacement Training i Norway; pathways to behavioural improvement

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18 study sites



Diakonhjemmet University College

Located between...



The North Atlantic Sea

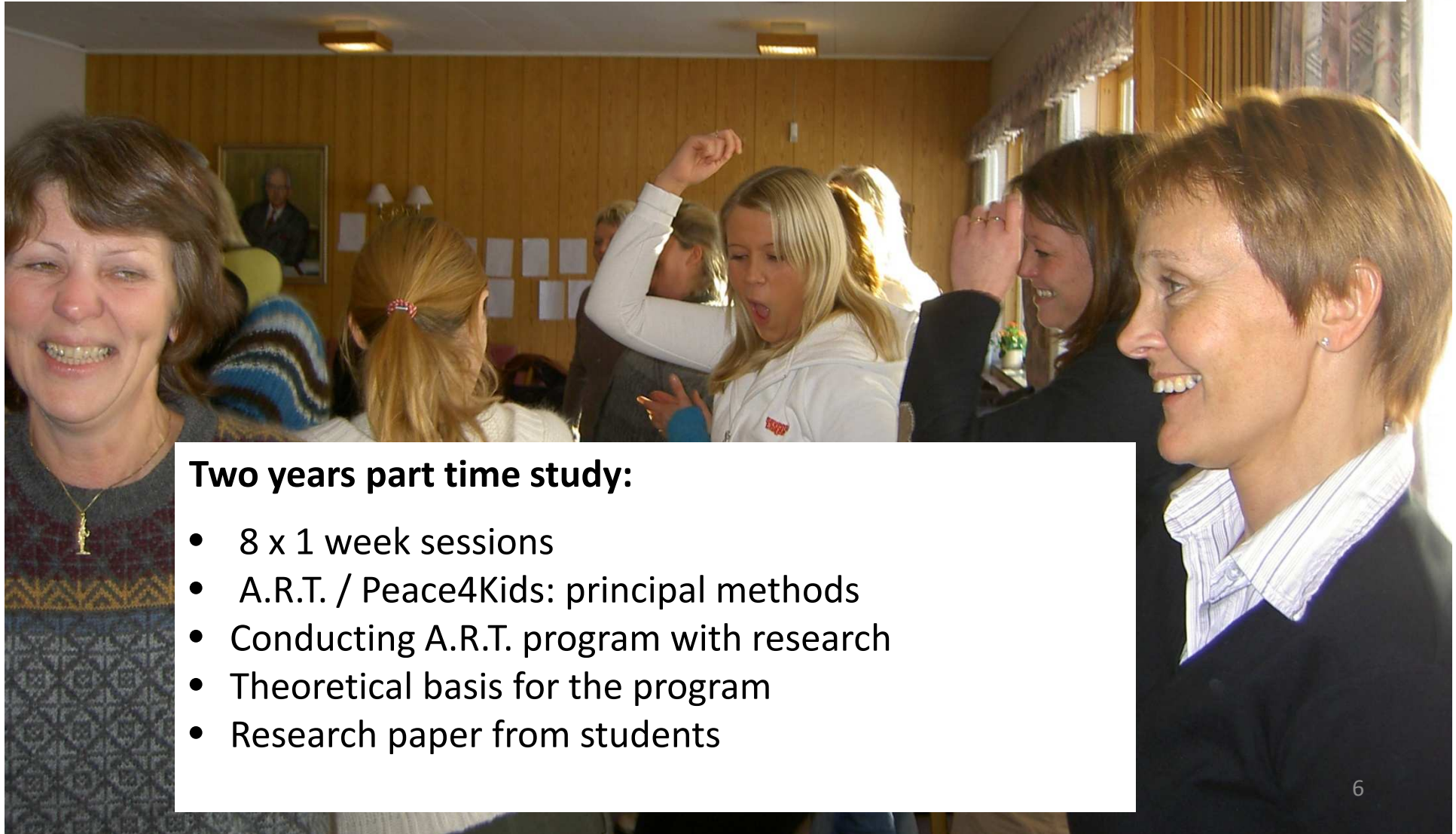


And the..

The mountains and fjords



60 credits post graduate education for training social competencies for teachers and authorized social workers



Two years part time study:

- 8 x 1 week sessions
- A.R.T. / Peace4Kids: principal methods
- Conducting A.R.T. program with research
- Theoretical basis for the program
- Research paper from students

8 day ART training seminars

- 4 days Social Skills training and Anger Control training
- 3 days supervision and Moral Reasoning training
- 1 day examination / practical rehearsal
- 18 practice sessions with colleagues before starting the program

Family ART

Based on the Canadian version by Calame and Parker.
3 days supplementary seminar for ART-trainers. Both in
communities and institutions

6 days junior – ART -training



Aggression Replacement Training (ART)

30 sessions multimodal program consisting of 3 components

Social Skills
(behavior)

Specific Training

Anger Control
(emotion)

Specific Training

Moral
reasoning
(cognition)

Specific Training



2 trainers / 6-8 participants

Rogaland College, Southwest Norway



Aggression Replacement Training

- Social skills training ('50 basic social skills')
- Cognitive moral reasoning component
- Anger management

- 30 hours
- 6-8 participants
- 2 instructors
- roleplaying

ART – research project 2005

Psychology, Crime & Law, December 2005; 11(4): 435–444



ORIGINAL ARTICLE

Evaluation of a Norwegian postgraduate training programme for the implementation of Aggression Replacement Training

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Scandinavian Journal of Educational Research
Vol. 50, No. 1, February 2006, pp. 63–81



Aggression Replacement Training in Norway: Outcome evaluation of 11 Norwegian student projects

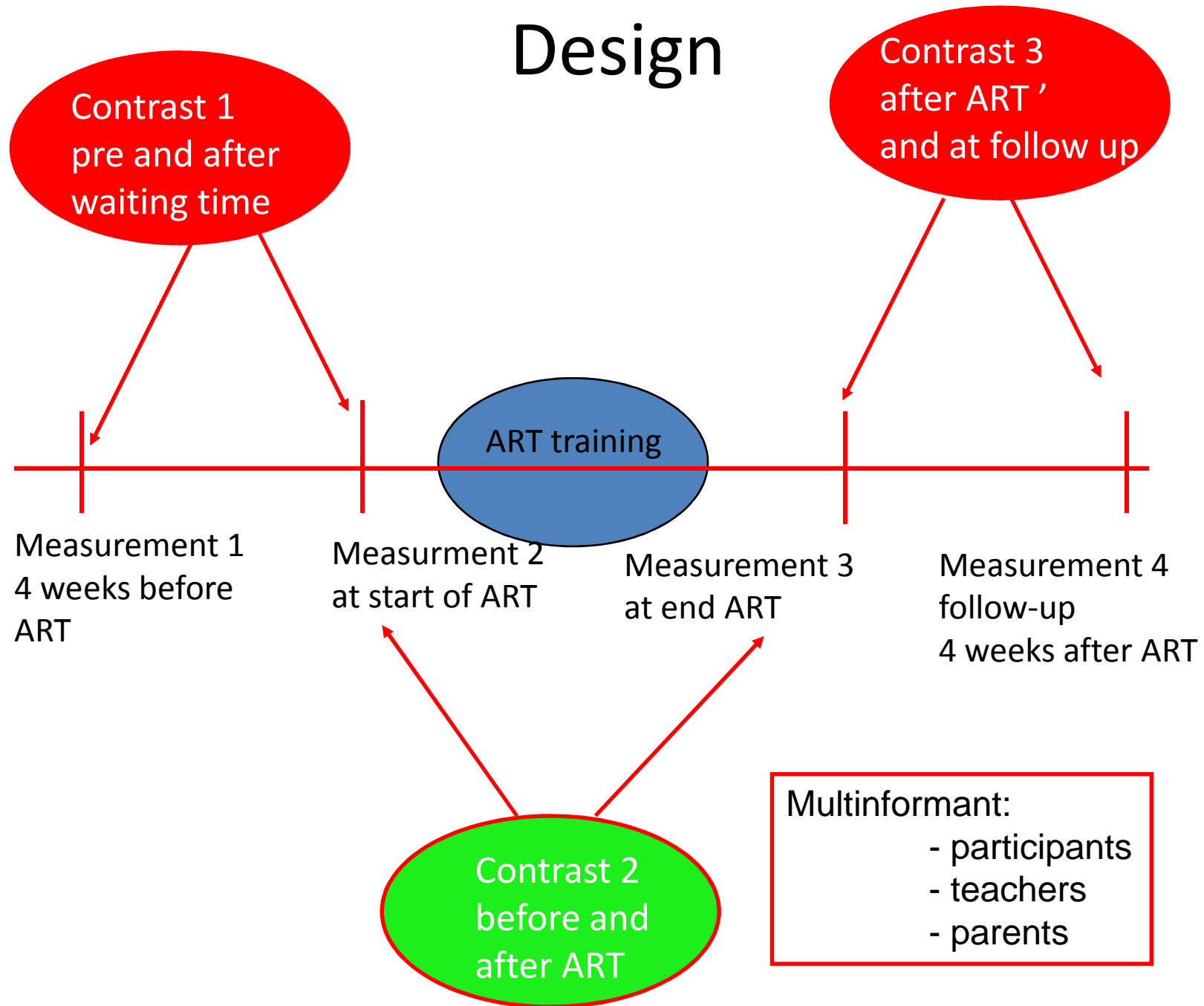
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Questions of research this research project

1. Does training of social skills through Aggression Replacement Training lead to better social competence and reduced behavioral problems in children and adolescents (replication previous study)?
2. How are changes in social skills after Aggression Replacement Training related to changes in behavioral problems?
3. For whom does Aggression Replacement Training work best:
 - 1) gender
 - 2) age
 - 3) degree behavioral problems at baseline
 - 4) degree social competence at baseline

Design



Instrument

- Social skills rating system (Gresham & Elliott)
 - participants (39 items on social skills)
 - parent-version (40 items on social skills / behav probl)
 - teacher-version (30 items on social skills /behav probl)
- Less than 20 minutes to complete
(per informant)

SSRS, parent & teachers includes subscales:

- Assertion
- Cooperation
- Self control

- Externtalising problems
- Internalising problems

SSRS

- **Assertion**
- Cooperation
- Self control

- invites others to Join activities
- start conversations

SSRS

- Assertion
- **Cooperation**
- Self control

- Helps with tasks
- complete tasks on time

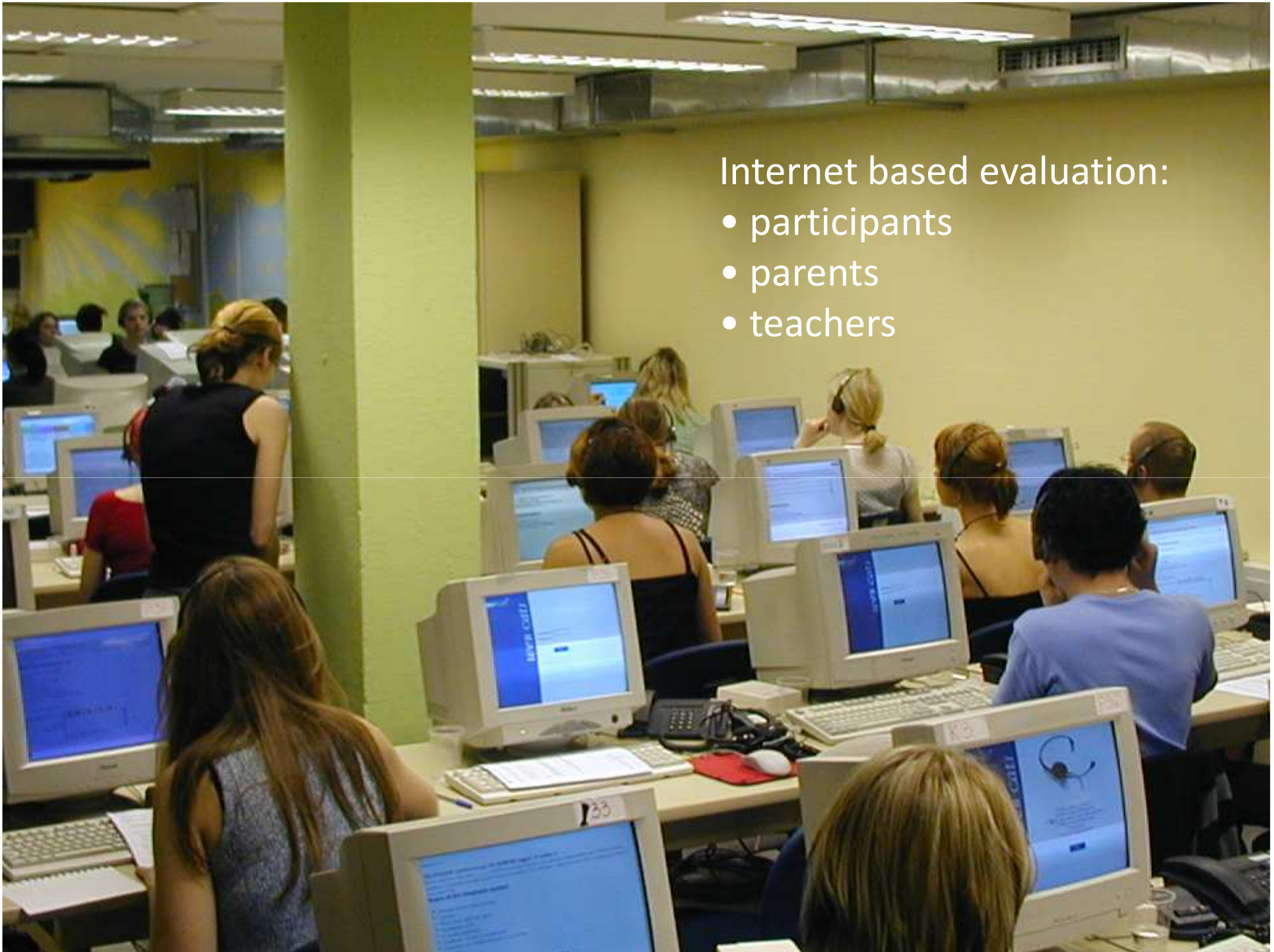
SSRS

- Assertion
- Cooperation
- **Self control**

- controls temper
- disagrees without fighting

The 2007 research project

- 92 participants (10-19 years of age), their parents and their teachers
- Multicentre: 18 different Aggression Replacement Training groups all over Norway
- Internet based evaluation:



Internet based evaluation:

- participants
- parents
- teachers

Interrater reliability?

Interrater correlations teacher-parent rating

SSRS subscale	Pearson correlations (sign.)
Cooperation	,27 (.02)
Assertion	,40 (.00)
Selfcontrol	,40 (.00)
Externalising behav. problems	.42 (.00)

-> Interrater reliability is satisfactory -> supports validity of our data

Are social skills associated with behavioral problems??

(Webster-Stratton & Hammond, 1998, Zupai & Kavi, 2008:

Low social competence associated with increased level of behaviour problems)

Pearson correlations (sign) between social skills and ext. behav problems before training

	Cooperation	Assertion	selfcontrol
Teacher rated			
Parent rated			

-> Expected: significant correlations, most with selfcontrol

Are social skills associated with behavioral problems??

(Webster-Stratton & Hammond, 1998, Zupai & Kavi, 2008:

Low social competence associated with increased level of behaviour problems)

Pearson correlations (sign) between social skills and ext. behav problems before training

	Cooperation	Assertion	selfcontrol
Teacher rated	-,31 (.004)	-,28 (.011)	-,63 (.000)
Parent rated	-,55 (.000)	-,34 (.001)	-,69 (.000)

-> **YES:** Increased behavioral problems associated with lower degree of social skills

Less externalising problems after ART?

	Rater	Df	Mean difference (sd)	t-value	Sign.
During waiting period before training	parent				
	teacher				
During Aggression Replacement Training	parent				
	teacher				
During follow-up	parent				
	teacher				

- Expected significant reduction
- Not expected significant reduction

Less externalising problems after ART?

	Rater	Df	Mean difference (sd)	t-value	Sign.
During waiting period before training	parent	31	.11 (.41)	1.54	.13
	teacher	28	.10 (.29)	1.92	.07
During Aggression Replacement Training	parent	63	.09 (.49)	1.48	.15
	teacher	81	.17 (.35)	4.46	.00
During follow-up	parent	8	.05 (.29)	.50	.65
	teacher	8	.07 (.22)	1.00	.35

- **Yes:** As expected: Teachers report reduction externalising problems after ART-period.
- **Not expected:** Parents don't report reduction externalising problems after ART-period.
- **As expected:** No significant changes before training or during follow-up period

Improved social skills after ART?

		Df	F	sign	Effect size (squared eta)
Pre-pre versus Pretest	Participants				
	Parents				
	Teachers				
Pretest versus posttest	Participants				
	Parents				
	Teachers				
Posttest vs. post- posttest	Participants				
	Parents				
	Teachers				

Green=Change expected

Red=change not expected

Improved social skills after ART? (Aggregated SSRS-scores)

		Df	F	sign	Effect size (squared eta)
Pre-pre versus Pretest	Participants	1,44	.00	.96	.00
	Parents	1,31	.69	.41	.02
	Teachers	1,28	.53	.47	.02
Pretest versus posttest	Participants	1,73	11.77	.00	.14
	Parents	1,61	14,13	.00	.19
	Teachers	1,82	40.23	.00	.33
Posttest vs. post- posttest	Participants	1,15	.12	.74	.01
	Parents	1,8	.63	.45	.07
	Teachers	1,8	.03	.86	.00

Which social skills improve during training?

	Type of social skill	Df	Mean difference (sd)	t-value	Sign.
Parents	cooperation				
	assertion				
	selfcontrol				
Teachers	cooperation				
	assertion				
	selfcontrol				

•Expected

Which social skills improve during training?

	Type of social skill	Df	Mean difference (sd)	t-value	Sign.
Parents	cooperation	82	-.19 (.34)	-5.05	.00
	assertion	61	-.15 (.29)	-4.01	.00
	selfcontrol	61	-.14 (.37)	-3.07	.00
Teachers	cooperation	82	-.19 (.34)	-5.05	.00
	assertion	82	-.17 (.33)	-4.76	.00
	selfcontrol	82	-.22 (.36)	-5.71	.00

- Social skills improve during ART-training as expected

Does age make a difference (1)?

Primary school			Mean	Std. Deviation	T	df	Sig. (2-tailed)
Rated by teachers	Externalising behav. problems	Before ART	0,78	0,61	4,53	54	.00
		After ART	0,59	0,45			
	cooperation	Before ART	1,68	0,74	-5,33	55	.00
		After ART	1,91	0,71			
	assertion	Before ART	1,56	0,62	-5,72	55	.00
		After ART	1,81	0,62			
	selfcontrol	Before ART	1,53	0,56	5,49	55	.00
		After ART	1,81	0,52			

8/8 measures = significant improvement

Rated by parents	Externalising behav. problems	Before ART	0,95	0,53	2,05	42	.05
		After ART	0,79	0,37			
	cooperation	Before ART	1,51	0,44	-2,45	42	.02
		After ART	1,65	0,47			
	assertion	Before ART	1,86	0,46	-3,68	42	.00
		After ART	2,02	0,46			
	selfcontrol	Before ART	1,59	0,44	-3,29	42	.00
		After ART					

8 out of 8

Does age make a difference (2)?

We expect more change in younger kids (Caprara, Barbaranelli, and Postorelli, 2001)

Secondary school			Me an	Std. Deviation	t	df	Sig. (2-tailed)
Rated by teachers	Externalising behav. problems	Before ART	1,21	0,44	1,67	25	0,11
		After ART	1,07	0,44			
	cooperation	Before ART	1,44	0,36	-1,22	25	0,23
		After ART	1,52	0,45			
	assertion	Before ART	1,37	0,35	-0,26	25	0,80
		After ART	1,38	0,38			
	selfcontrol	Before ART	1,28	0,41	-2,16	25	0,04
		After ART	1,39	0,44			
1/ 8 measures = significant improvement							
Rated by parents	Externalising behav. problems	Before ART	1,02	0,70	-0,31	18	.76
		After ART	1,05	0,67			
	cooperation	Before ART	1,38	0,49	0,47	17	.64
		After ART	1,34	0,38			
	assertion	Before ART	1,73	0,55	-1,46	17	.16
		After ART	1,84	0,53			
	selfcontrol	Before ART	1,27	0,56	-0,34	17	.74

Does age make a difference (3)?

-> **YES:** Improvement in social skills and behavioral problems mostly in primary schoolers (but teachers also observe improvement in selfcontrol in secondary schoolers)

Is change in Externalising behavioral problems associated with changes in which social skills?

	Changes in soc skill cooperation Same rater	Changes in soc skill assertion Same rater	Changes in soc skill selfcontrol same rater
Teacher reports	-,24 (.03)	-,03 (.79)	-,39 (.00)
Parent reports	-,28 (.03)	-,10 (.43)	-,41 (.00)

Pearson correlations (level of significance)

•Reduction in externalising problems = associated with improved social skills:

- **Cooperation**
- **selfcontrol**

Does **gender** make a difference (1)?

BOYS

			Mean	Std. Deviation	t	df	Sig. (2-tailed)
Rated by Teachers	externalising	Before ART	1,05	0,55	4,05	46	.00
		After ART	0,82	0,42			
	cooperation	Before ART	1,33	0,55	-5,01	47	.00
		After ART	1,57	0,60			
	assertion	Before ART	1,31	0,53	-4,52	47	.00
		After ART	1,52	0,50			
	selfcontrol	Before ART	1,26	0,50	-5,57	47	.00
		After ART	1,52	0,44			

Change in 6/6 soc skills & ext. behav

Rated by parents	externalising	Before ART	1,03	0,59	1,40	34	0,17
		After ART	0,91	0,46			
	cooperation	Before ART	1,34	0,44	-3,01	33	0,00
		After ART	1,53	0,46			
	assertion	Before ART	1,69	0,47	-4,05	33	0,00
		After ART	1,90	0,49			
	selfcontrol	Before ART	1,44	0,47	-2,98	33	0,01

Does **gender** make a difference (2)?

GIRLS			Mean	Std. Deviation	T	df	Sig. (2-tailed)
Rated by teachers	externalising	Before ART	0,74	0,60	2,04	33	.05
		After ART	0,64	0,58			
	cooperation	Before ART	1,99	0,58	-1,87	33	.07
		After ART	2,09	0,63			
	assertion	Before ART	1,76	0,49	-2,09	33	.04
		After ART	1,89	0,63			
	selfcontrol	Before ART	1,71	0,44	-2,68	33	.01
		After ART	1,90	0,58			

Change in 2/6 soc skills + ext behav prob

Rated by parents	externalising	Before ART	0,89	0,56	0,68	26	0,50
		After ART	0,83	0,54			
	cooperation	Before ART	1,64	0,43	0,80	26	0,43
		After ART	1,60	0,47			
	assertion	Before ART	1,99	0,47	-1,32	26	0,20
		After ART	2,06	0,47			
	selfcontrol	Before ART	1,56	0,53	-0,92	26	0,37
		After ART	1,61	0,46			

Does **gender** make a difference (3)?

YES:

- **Teachers** and parents see more improvement in **social skills** in boys than in girls
Teachers observe more improvement in **externalising problem behavior** in boys than in girls

Summary: Aggression replacement training

- Leads to reduced behavioral problems and improved social competence
- Results in improved social competence is related with reduced behavioural problems
- Seems to be most effective in primary schoolers?
- Seems to have best effect in boys