



Universitätsklinikum  
Hamburg-Eppendorf

Deutsches Zentrum für Suchtfragen  
des Kindes- und Jugendalters (DZSKJ)

## Effectiveness of the German version of the Strengthening Families Programme 10-14

**Familien stärken** <sup>INFO</sup>

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EUSPR 2015: Session 10D: Substance Use



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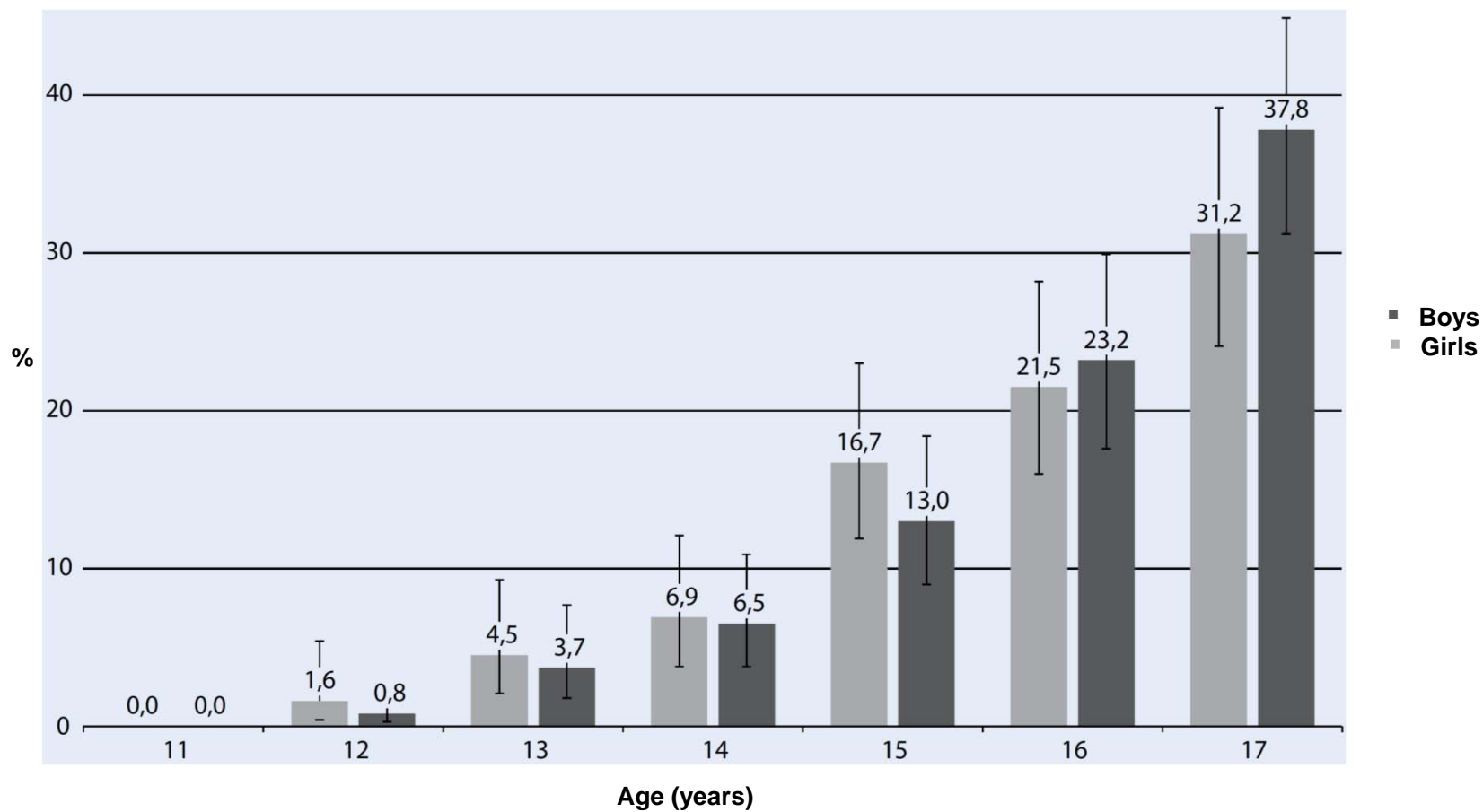
## Structure of this Talk

- Substance use among youth in Germany
- Family based prevention
- „Familien Stärken“
- Results from the RCT-study
- Implications



## Background

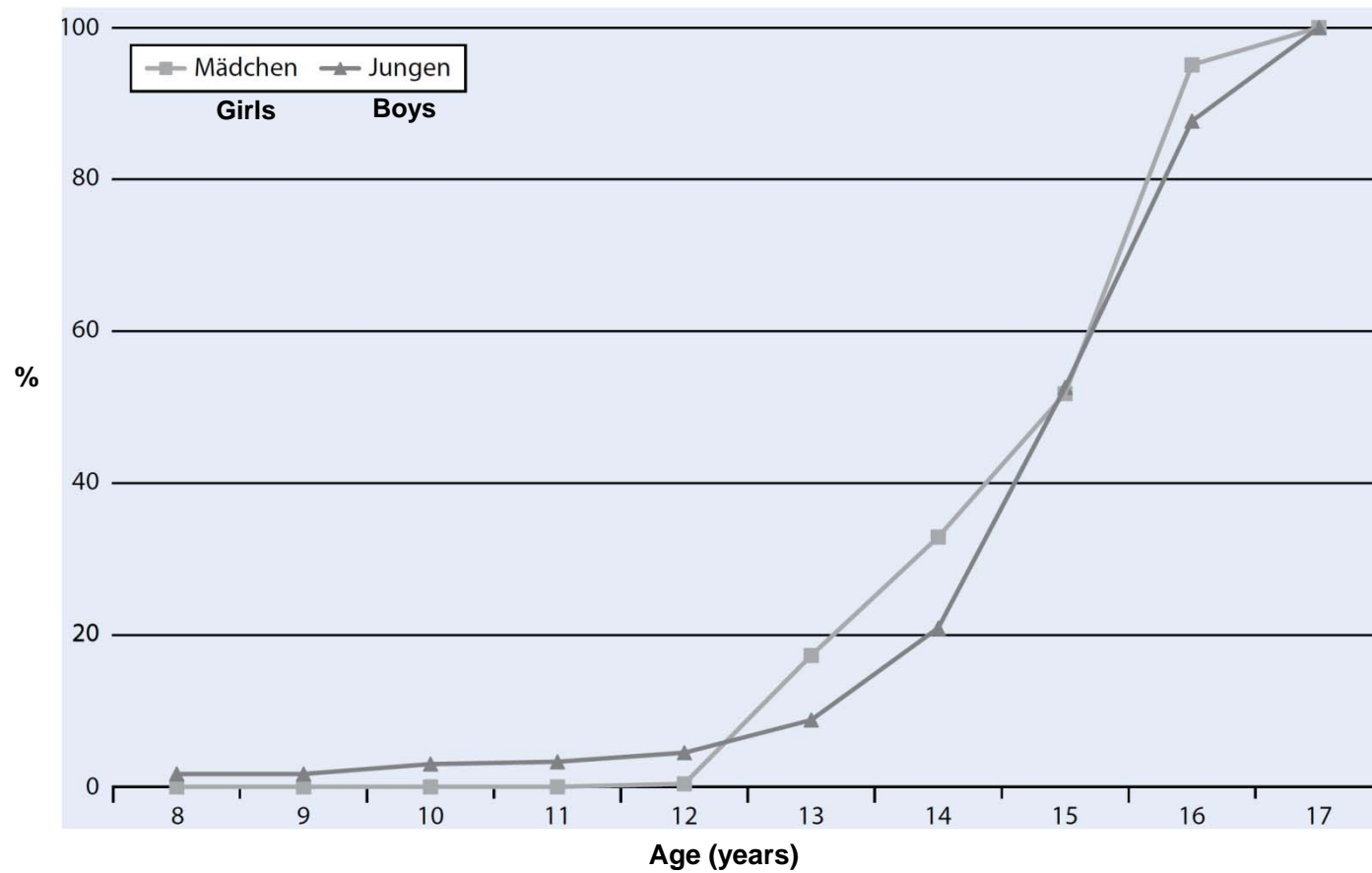
### Smoking (at least occasional) among youth in Germany





## Background

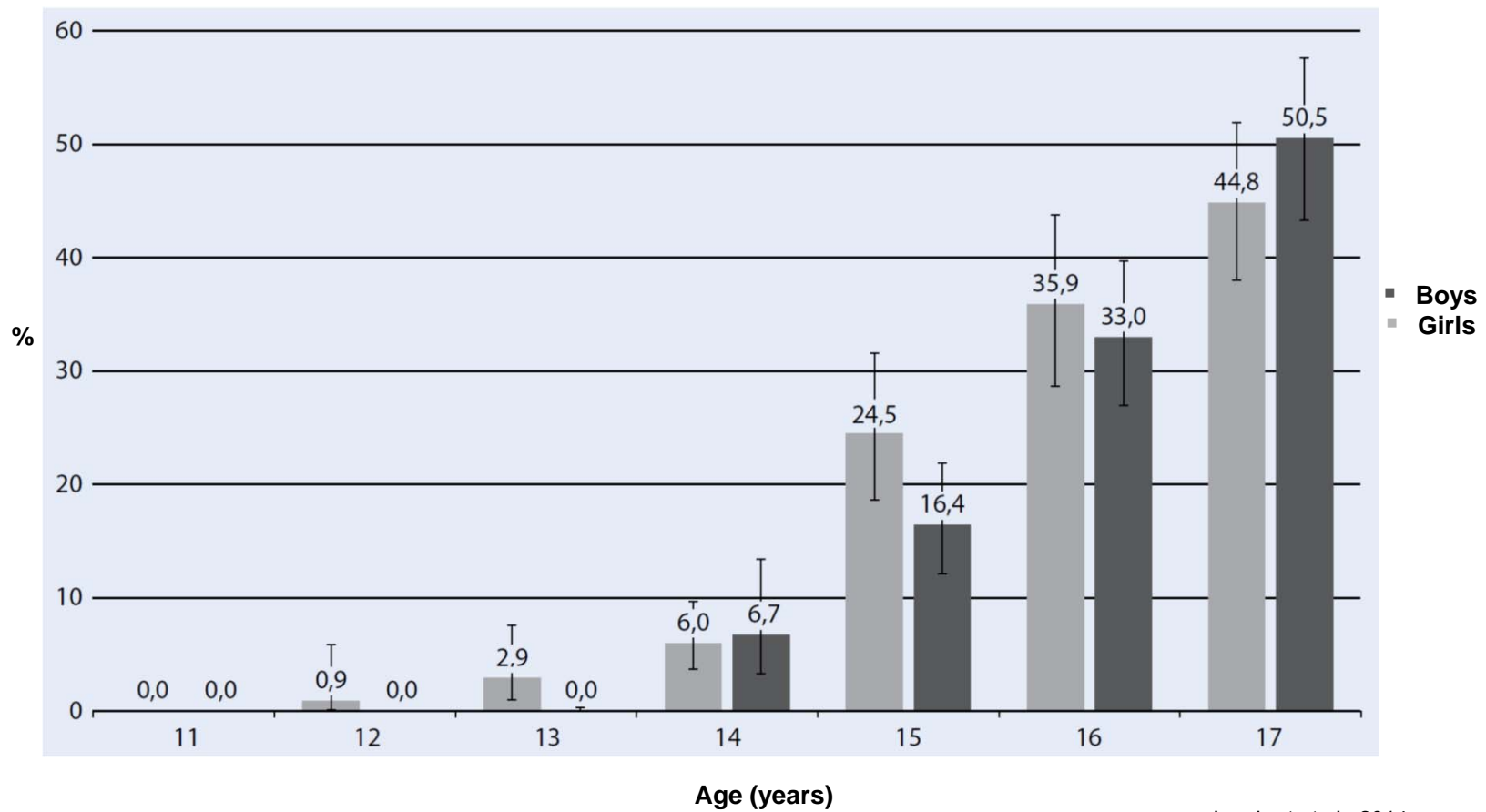
### Initiation of regular smoking

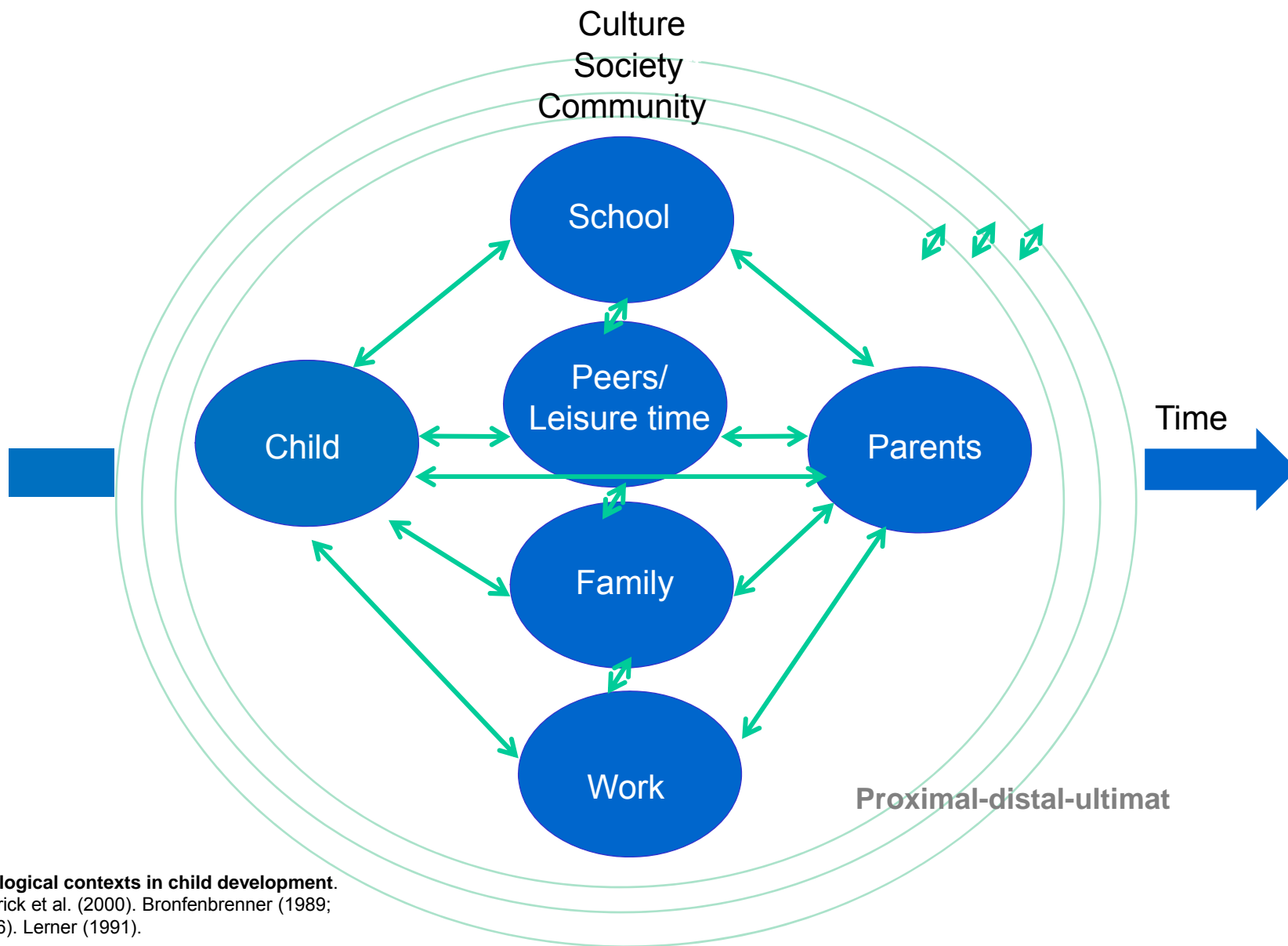




## Background

### Risky alcohol use (AUDIT-C) among youth in Germany

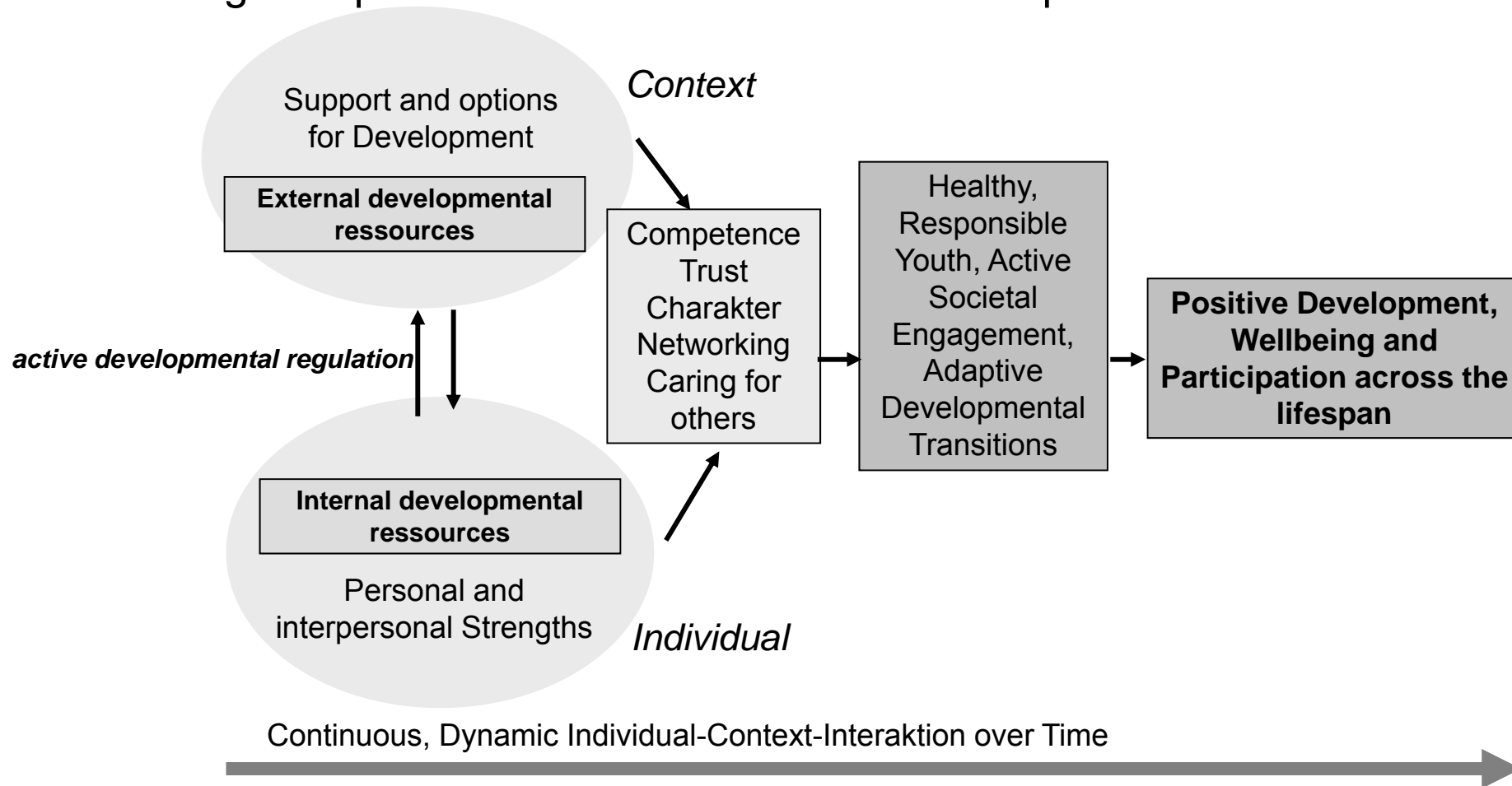




**Ecological contexts in child development.**  
Zubrick et al. (2000). Bronfenbrenner (1989;  
2006). Lerner (1991).



## Building Competencies for Positive Youth Development





## Background

### Family based substance use prevention

- Family-based risk factors (parental substance use, negative family functioning) predict early and accelerated problem substance use
- Lack of family based prevention programmes in Germany
- SFP 10-14 (Moolgaard and colleagues) is a universal family-based prevention program against substance abuse and behavioural problems in youth aged 10-14.
  - in **delaying the initiation** of tobacco, alcohol and cannabis use,
  - in **decreasing** the average **amount consumed** and
  - in **reducing** adolescents' **problem behaviour** in school and at home.

→ Can these positive effects be replicated in Germany?







## Background

Is delaying the initiation of substance use a useful prevention goal?

- Correlation but *indirect association* between early age of initiation and subsequent addictive developmental trajectories.
- Yes, although early initiation is not the *cause* of development of substance use disorders, but a significant *risk factor of a genetic vulnerability* for substance-related disorders.

Ystrom, E. et al. Early age of alcohol initiation is not the cause of alcohol use disorders in adulthood but is a major indicator of genetic risk. A population-based twin study. *Addiction*, 2014



## SFP 10-14 Germany

### Intervention adaptation and integrity

- Application to the regional social structures in Germany
  - Considerations of cultural norms and definition of problem behaviour that is supposed to be addressed (family, school, peer group)
  - Adaptation to the German language (colloquial language, idiomatic expressions, non-verbal language)
  - The program's adequate incorporation in the conditions of the local support system.
- Adaptation in focus groups with experts and participant target group
- Maintenance of Intervention integrity (core intervention content and processes)



## Background

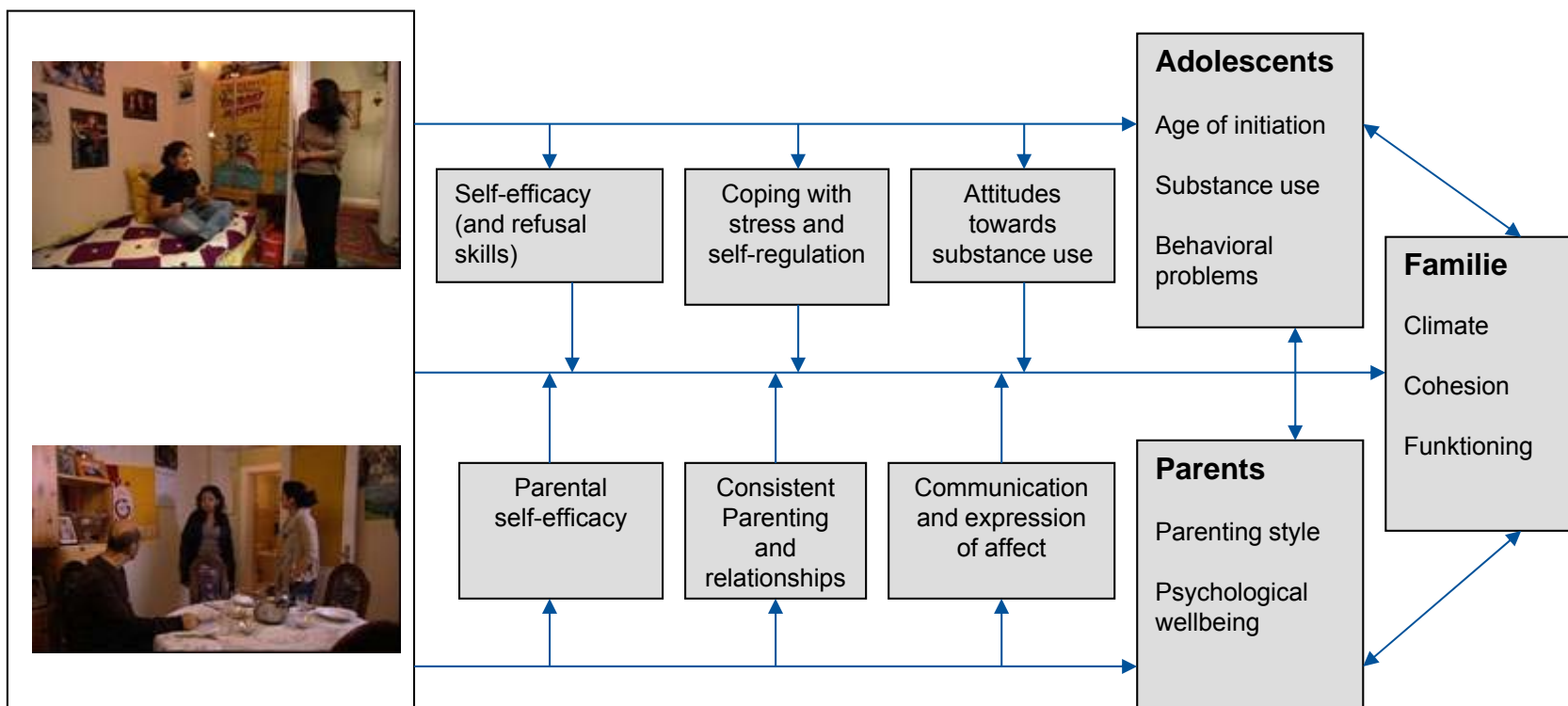
### The Program

- Manual based and teaching DVDs
- 7 weekly sessions (3 hrs.) plus 4 booster sessions (after 4-6 months)
- Per session there are three group facilitators who work with 8-12 participating families.
- Program elements and sessions for parents, children and the entire family.
- Family meal to promote informal interactions between families (“support group effects”) and to relieve parents from household duties; also child care for younger siblings.
- Incentives for the families



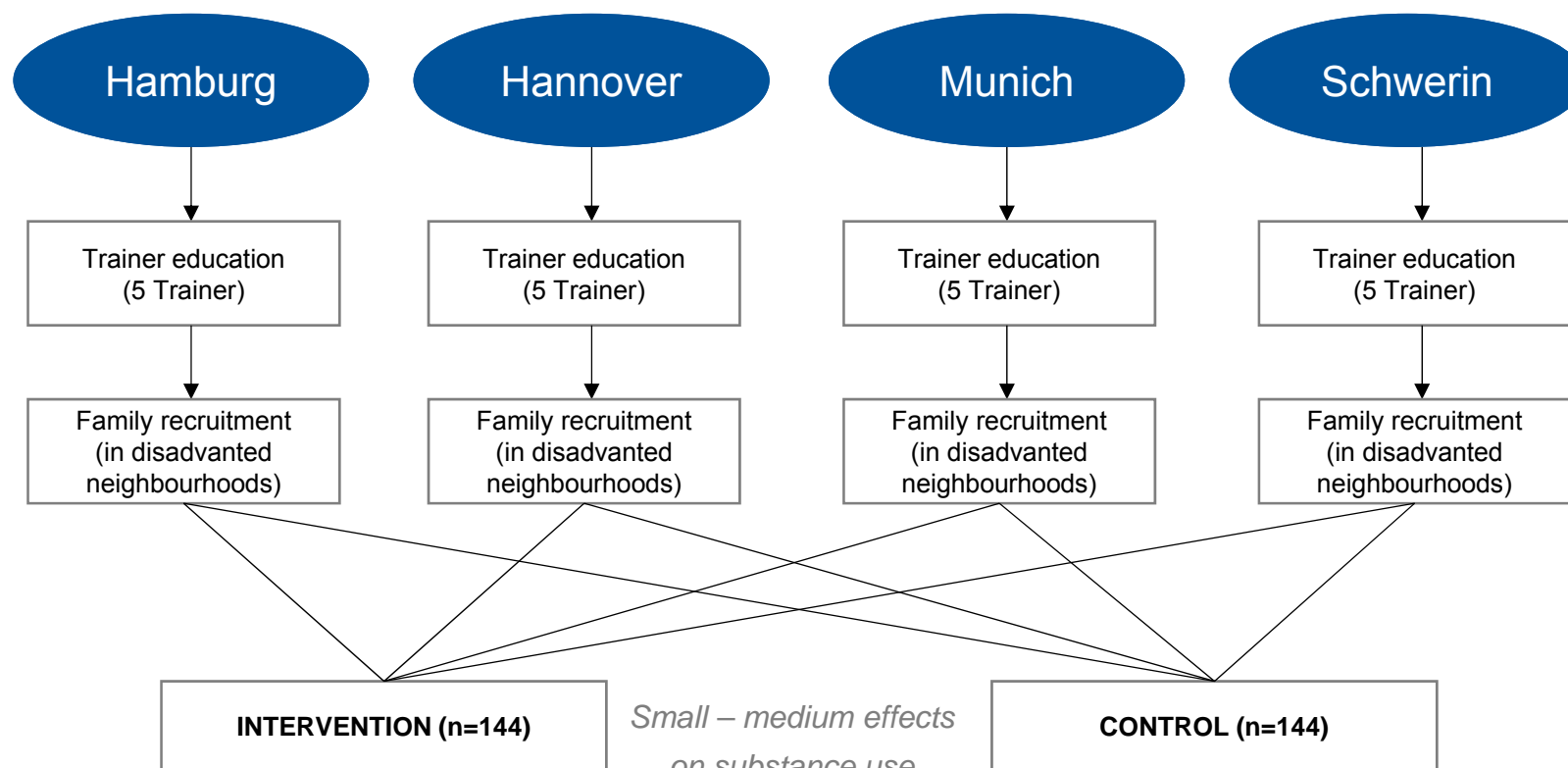
## Background

### Model for SFP 10-14 Germany





## SFP 10-14 Germany Multicentre RCT-study



*In-home Assessments by trained research staff (blind!)  
at families' home (separate rooms for parent/child assessment)  
50€ per assessment*



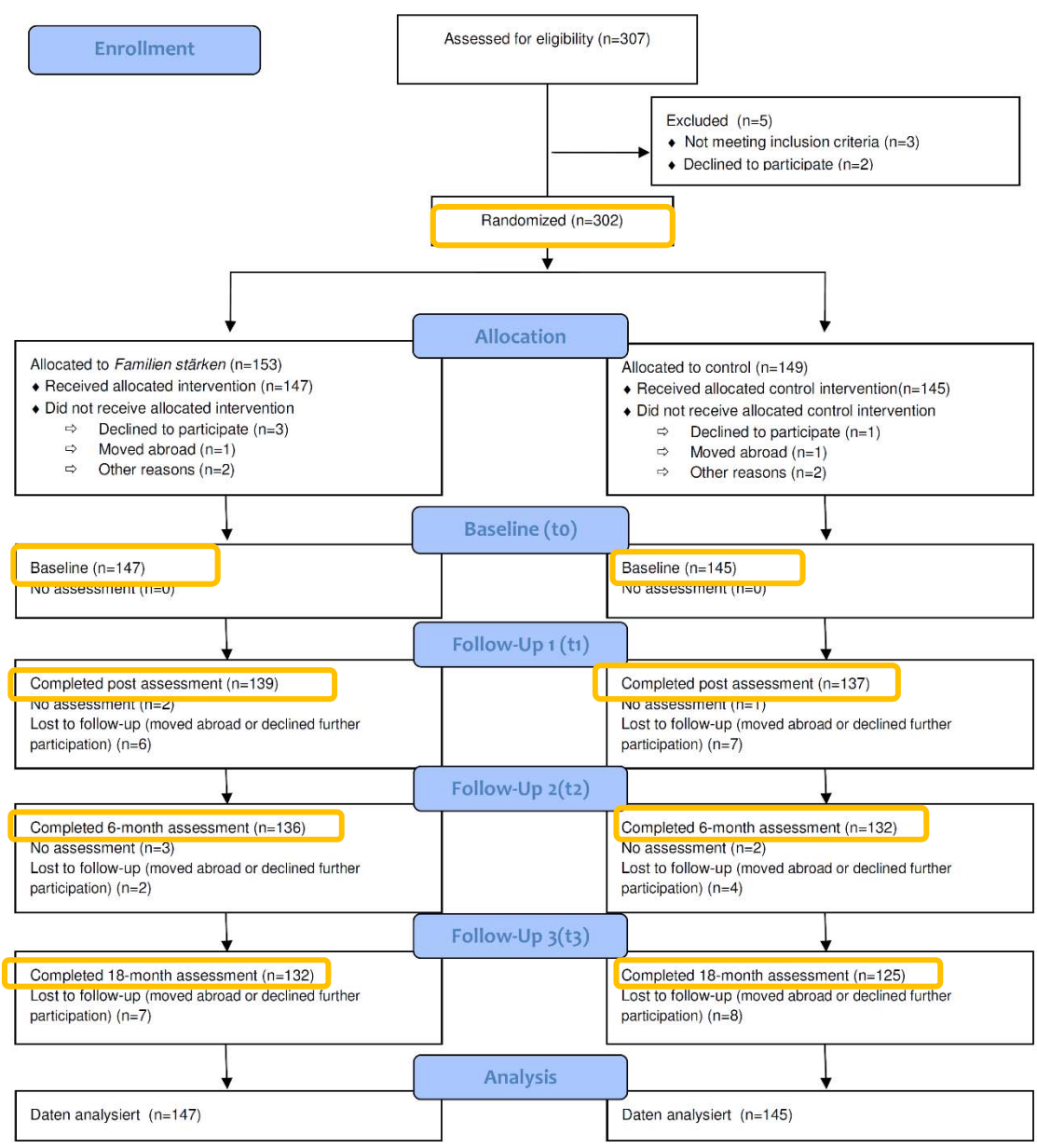
302 Families  
randomized

1 child per family  
Included in RCT

Randomization  
stratified for  
(child) age and  
gender

High retention  
(85%)

Booster after  
2 – 4 months





## SFP 10-14 Germany

### Baseline characteristics

	<b>SFP</b>	<b>Control</b>
<b>Sociodemographics</b>	<b>n (%)</b>	<b>n (%)</b>
<i>Female (child)</i>	59 (40.1)	62 (42.8)
<i>Family Migration Background</i>	19 (12.9)	18 (12.4)
<i>Financial Strain (Parent)</i>	70 (47.6)	67 (46.2)
<i>Low educational attainment (Parent)</i>	23 (30.2)	22 (27.9)

<b>Lifetime use (at baseline)</b>	<b>SFP</b>	<b>Control</b>
<b>Substance</b>	<b>% (n/total n)</b>	<b>% (n/ total n)</b>
<i>Tobacco</i>	15.8 (23/ 146)	17.0 (24/ 141)
<i>Alcohol</i>	23.3 (34/ 146)	20.4 (29/ 142)
<i>Cannabis</i>	2.0 (3/ 145)	1.4 (2/ 139)

<b>Age of first use</b>	<b>SFP</b>		<b>Control</b>	
<b>Substance</b>	<b>M</b>	<b>SD</b>	<b>M</b>	<b>SD</b>
<i>Tobacco</i>	11.6	1.68	11.7	1.71
<i>Alcohol</i>	10.9	1.85	11.5	1.91
<i>Cannabis</i>	12.8	0.46	13.2	0.28

*No sign. Differences  
between trial arms*



## SFP 10-14 Germany

### Process evaluation

Family member	Scale	M	SD
Child (n = 132)	Success of training	2,62	0,79
	Relationship with trainers	3,2	0,67
	General condition	3,0	0,57
	<b>Total scale</b>	<b>2,99</b>	<b>0,55</b>
Mother (n = 136)	Success of training	2,72	0,64
	Relationship with trainers	3,14	0,70
	General condition	3,20	0,46
	<b>Total scale</b>	<b>3,06</b>	<b>0,48</b>
Father (n = 46)	Success of training	2,65	0,59
	Relationship with trainers	3,16	0,59
	General condition	3,22	0,47
	<b>Total scale</b>	<b>3,02</b>	<b>0,53</b>

Range 0 – 4; **0** = „totally useless“ , „totally dissatisfied“ – **4** = „totally useful“ , „totally satisfying“

Intervention delivery: Video ratings (2 raters) of random training sessions

Adherence to manual (n=94): M=85.8% (95% CI: 83.6 – 88.0) compliance

Trainer competence (n=60): M=3.21 (95% CI: 3.15 – 3.27)





## Results

### Effectiveness on substance use

#### **Substance use initiation: Self-reported Lifetime substance use at 18-months**

Outcome variable					
ITT	SFP % (n)	Control	OR (95% CI)	p	RRR (%)
Tobacco	34.9 (46)	43.4 (56)	0.56 (0.32-0.98)	.040	19.6
Alcohol	53.3 (72)	52.8 (67)	0.99 (0.57-1.73)	.972	-0.01
Cannabis	10.3 (13)	11.6 (14)	0.54 (0.21-1.42)	.211	11.2
Completers					
Tobacco	16.7 (17)	24.2 (32)	0.47 (0.25-0.88)	.017	31.6
Alcohol	28.6 (30)	29.5 (38)	0.87 (0.47-1.56)	.611	7.2
Cannabis	5.1 (5)	9.7 (12)	0.37 (0.11-1.21)	.101	38.8

Note. N= 147 (SFP), N=145 (Control). Odds ratio adjusted for baseline values of the outcome, sex, age and study centre. Completers only in in SFP-group (at least 5 out of 7 sessions). OR: values below 1 indicate reduced risks in the intervention group. RRR=Relative Risk reduction

→ RRR after 4 years in Spoth et al. (2001): Alc.: 26.4\*\*; Cigarettes: 34.8\*\*; Marijuana: 55.7\*



## Results

### Effectiveness on substance use

#### New user proportions: Initiated substance use during 18-months (t1 – t3)

Outcome variable						
ITT	SFP % (n)	Control	OR (95% CI)	p	z	RRR (%)
Tobacco	17.3 (23/133)	24.2 (32/132)	0.64 (0.35-1.18)	.153	-1.39	28.7
Alcohol	27.9 (38/136)	29.5 (38/129)	0.88 (0.51-1.52)	.651	-0.2728	0.5
Cannabis	7.1 (9/126)	9.7 (12/124)	0.613 (0.24-1.57)	.307	-0.7223	24.4
Completers						
Tobacco	16.7 (17/102)	24.2 (32/132)	0.62 (0.32-1.21)	.160	-1.4123	41.1
Alcohol	28.6 (30/105)	29.5 (38/129)	0.94 (0.53-1.69)	.841	-0.1485	0.3
Cannabis	5.1 (5/99)	9.7 (12/124)	0.47 (0.16-1.40)	.176	-1.2936	42.8

Odds ratio adjusted for sex, age and study centre. RRR after 4 years in Spoth et al. (2001): Alc.: 26.4\*\*; Cigarettes: 34.8\*\*; Marijuana: 55.7\*



## Results

### Effectiveness on substance use

#### Past-month substance use over time

Outcome variable	Baseline		T1				T2				T3			
	SFP (%)	CG (%)	SFP (%)	CG (%)	OR (95% CI)	p	SFP %	CG %	OR (95% CI)	p	SFP %	CG %	OR (95% CI)	p
Tobacco	7.0	5.7	8.3	6.3	1.28 (0.40-4.11)	.675	9.6	9.2	0.73 (0.28-1.90)	.515	16.7	16.5	0.80 (0.36-1.78)	.577
Alcohol	7.1	6.1	11.5	6.4	1.72 (0.59-4.99)	.322	9.6	6.2	1.93 (0.67-5.59)	.224	20.5	17.6	1.31 (0.66-2.61)	.437
Cannabis	2.8	0.7	2.9	1.5	n.a.	n.a.	3.7	2.3	0.81 (0.12-5.24)	.821	5.6	6.7	0.61 (0.17-2.22)	.454

Odds ratio adjusted for sex, age and study centre. Based on ITT-analyses. No sign. Differences between ITT and Completers analyses. OR for cannabis at T1 not appropriate because of low user prevalence (n.a.).

#### Frequency and quantity of use:

→ Even after log-transformation highly skewed distribution (few users, some with very high amount of use) – no appropriate analyses possible 😞



## Results

### Secondary effects

Measure	Adjusted Mean Difference t0-t3	SE	95% CI		p
Supportive parenting of mother (+)	0.171	0.10	-0.03	0.37	.045
General Self-Efficacy (+)	0.165	0.10	-0.03	0.36	.045
Attitudes towards substance use	0.173	0.12	-0.07	0.41	.080
Behavioral Problems (SDQ) (+)	0.828	0.55	-1.91	0.26	.067
<sup>a</sup> Mental strain (GSI) (+)	0.038	0.04	-0.12	0.05	.189
Parental Self-Efficacy (+)	0.092	0.04	0.01	0.17	.013

Mixed effects analyses (ITT) are adjusted for baseline values of the outcome, sex, age and study centre.

Missing values based on LOCF-imputation.

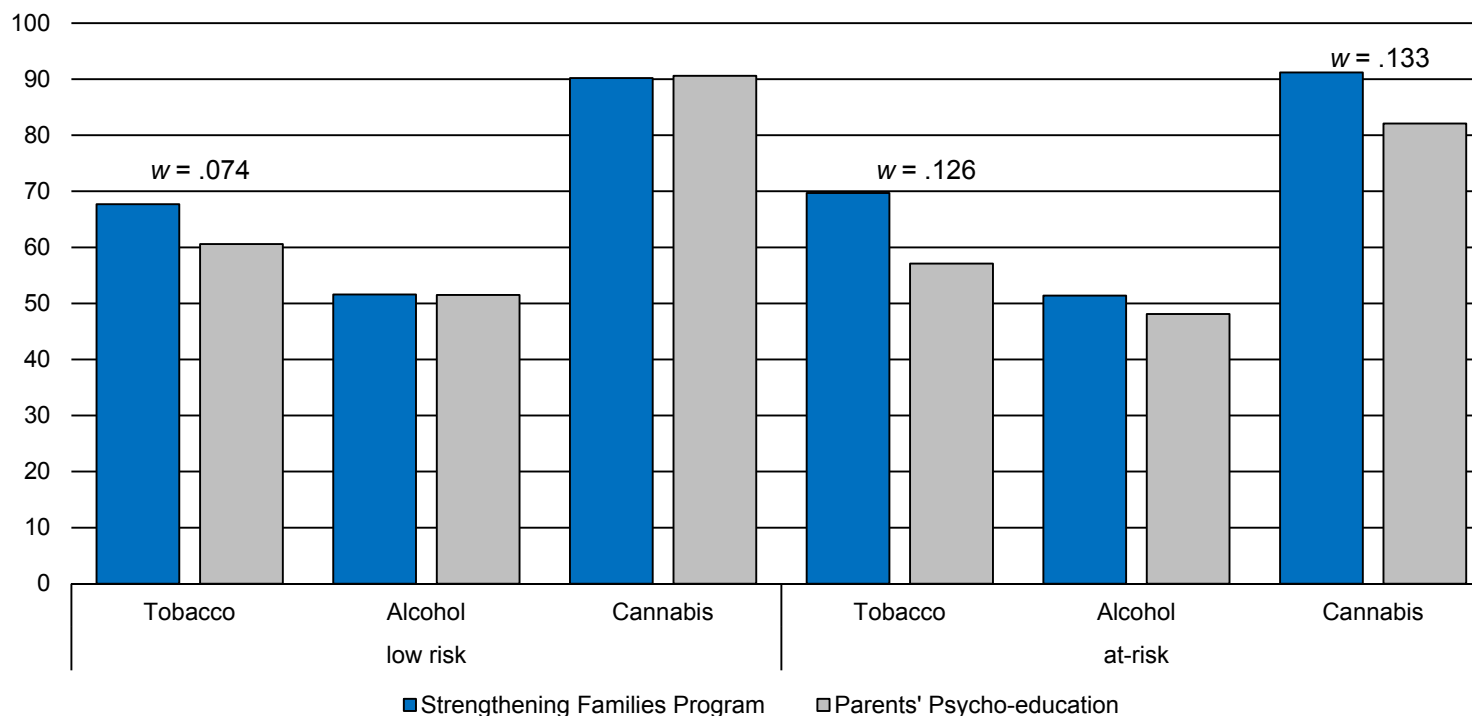
<sup>a</sup> significant time X group interaction in full model (t0-t3).

- No significant between group effects for child general wellbeing, psychosocial symptom severity, child conduct problems and problems with peers; No intervention effects on central family variables (i.e., family functioning, cohesion and satisfaction).



## Exploration of subgroup effects

Portions of children who were not using at t0 and remained abstinent over time (t0-t3)

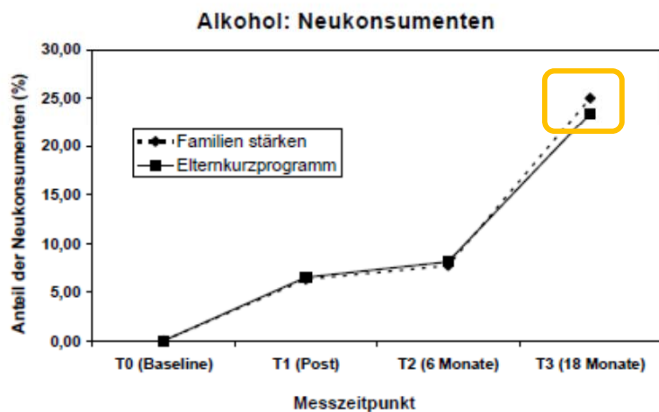
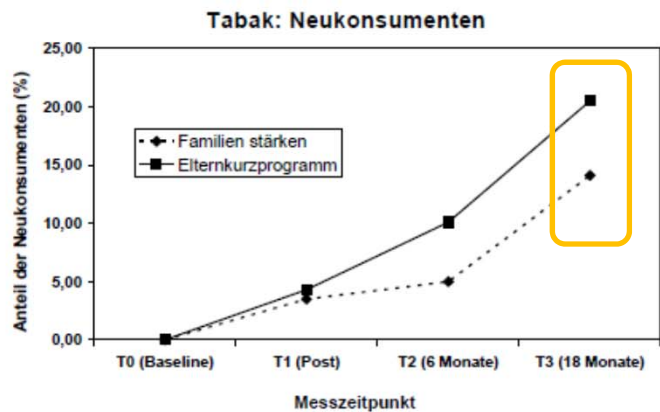


Note: Risk status is based on SDQ norm scores

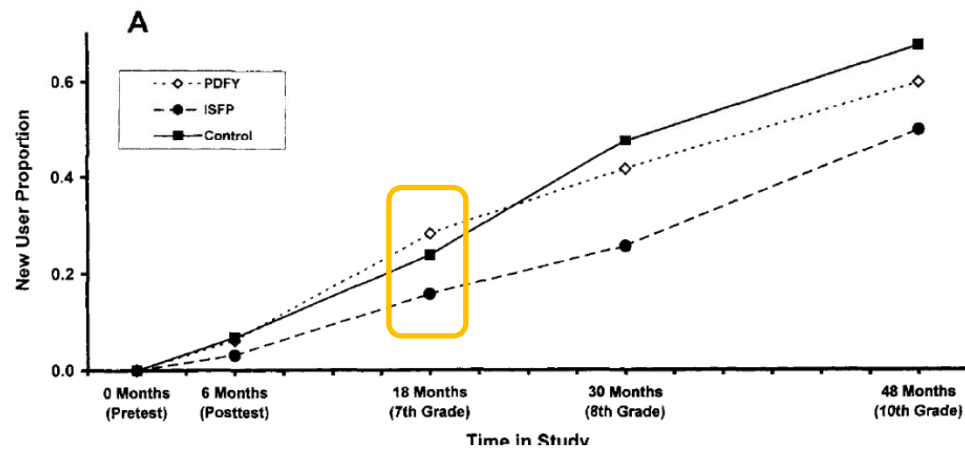
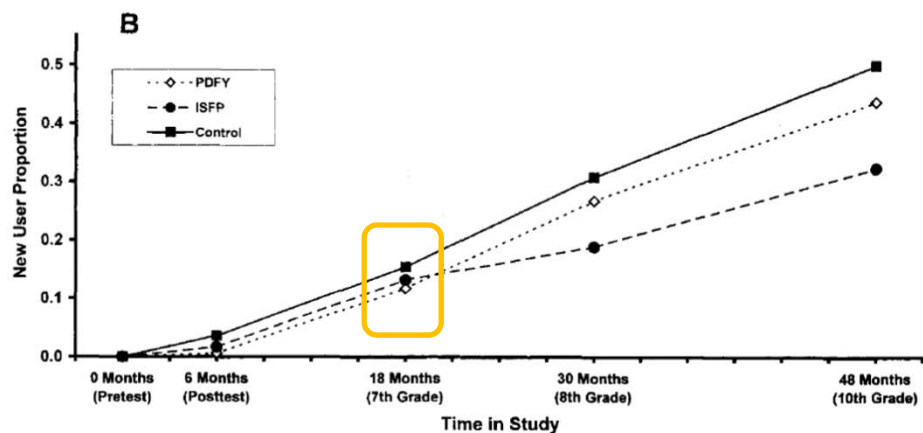
- Differences are *not* statistically significant. *Post hoc* sample size calculations (G\*Power) indicate a required sample size of N=785 to detect statistically significant differential effects.



### The Current Trial



### Spoth et al (2001)



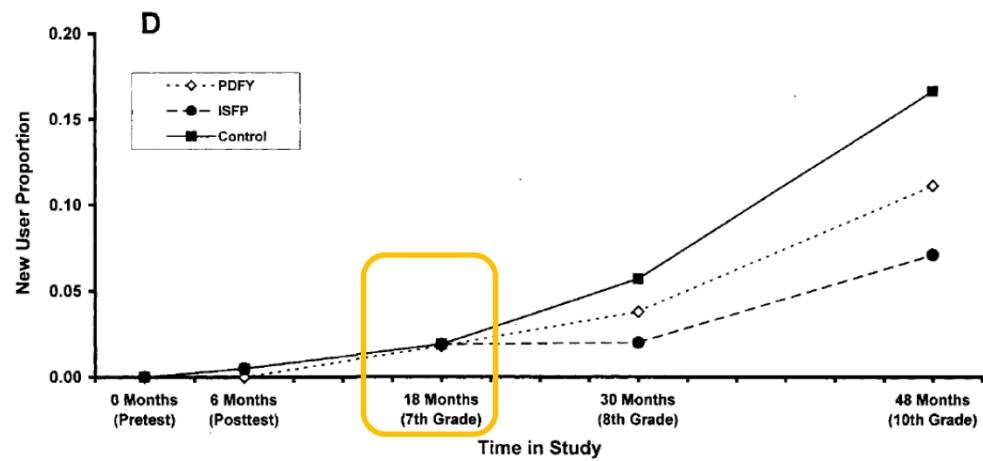


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The Current Trial

Spoth et al (2001)





## Summary

- Intervention adapted with high fidelity to core intervention principles, processes and elements
- *Effectiveness* trial with high retention, good implementation and delivery characteristics
- Overall between-group differences on substance use outcomes and proximal risk/protective factors (individual-, parent-, family-level) are modest and inconsistent – as in other European adaptation trials
- Clearly no delaying of alcohol use (focus on lifetime use may be misleading)
- Clear intervention effect on smoking at 18-months
- Endpoint at 18-months is not ideal – funding issues
- Ongoing exploratory differential effects analyses – small sample size is disadvantageous
- Future perspective:
  - Systematic implementation research (RE-AIM)
  - Program adaptations + comparative effectiveness in a combined project in EU





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Thank you!

## Familien stärken<sup>INFO</sup>



### Funding:

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(BMBF)

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Hannover: Step Hannover GmbH  
Schwerin: VSP GmbH



## Fragestellungen – Study Protocol

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- (1) Is the adapted German programme version **effective** and how does its **effectiveness compare with the US-based findings** as well as the findings from **current EU trials**?
- (2) Does programme **effectiveness vary between subgroups** within the sample (e. g., families with single parents, families with high psychopathology prior the intervention) and what does this tell us about the **working mechanisms** of the intervention?



Personal data	Questionnaire	Parents	t1
Drug-use	Interview/ Urinescreening	Child	t1 – t4
Screening of mental problems	BSI	Parents	t1 – t4
Screening of mental problems	SPS-J	Child	t1 – t4
Behavioral problems	SDQ	Child / Parents	t1 – t4
Attitudes toward drug use	Standardized Quest.	Child	t1 – t4
Quality of life	ILK	Child / Parents	t1 – t4
Self efficacy	Standardized Quest.	Child / Parents	t1 – t4
Parenting style	ESI	Child	t1 – t4
Family cohesiveness	FACES IV	Child / Parents	t1 – t4
Family functioning	FB	Child / Parents	t1 – t4
Contentment with the program	Standardized Quest.	Child / Parents	t2 – t4