

# What role can a modern negative information giving approach play in tobacco prevention?

## A cluster-randomized controlled trial

EUSPR 2<sup>nd</sup> conference  
Lisbon, 2011

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Funded by the  
German Lung  
Association

# „ohne kippe” - a modern negative information giving approach

2h clinic-based workshop

- presentation about risks of smoking
- live lung endoscopy of a smokers lung
- interview with a lung cancer patient





Thoraxklinik am Universitätsklinikum Heidelberg



# Starting point

- Development of substance abuse is multi-causal (Petraitis et al., 1998)
- Prevention approaches may be manifold, goals of different approaches may be different
- First evaluation study of the „ohne kippe“ („without cigarette“) intervention showed no effect on smoking behavior (Thorax, 2009)
- Ineffectiveness of negative information giving is common knowledge in prevention research (Bruvold, 1993, Tobler et al., 2000)

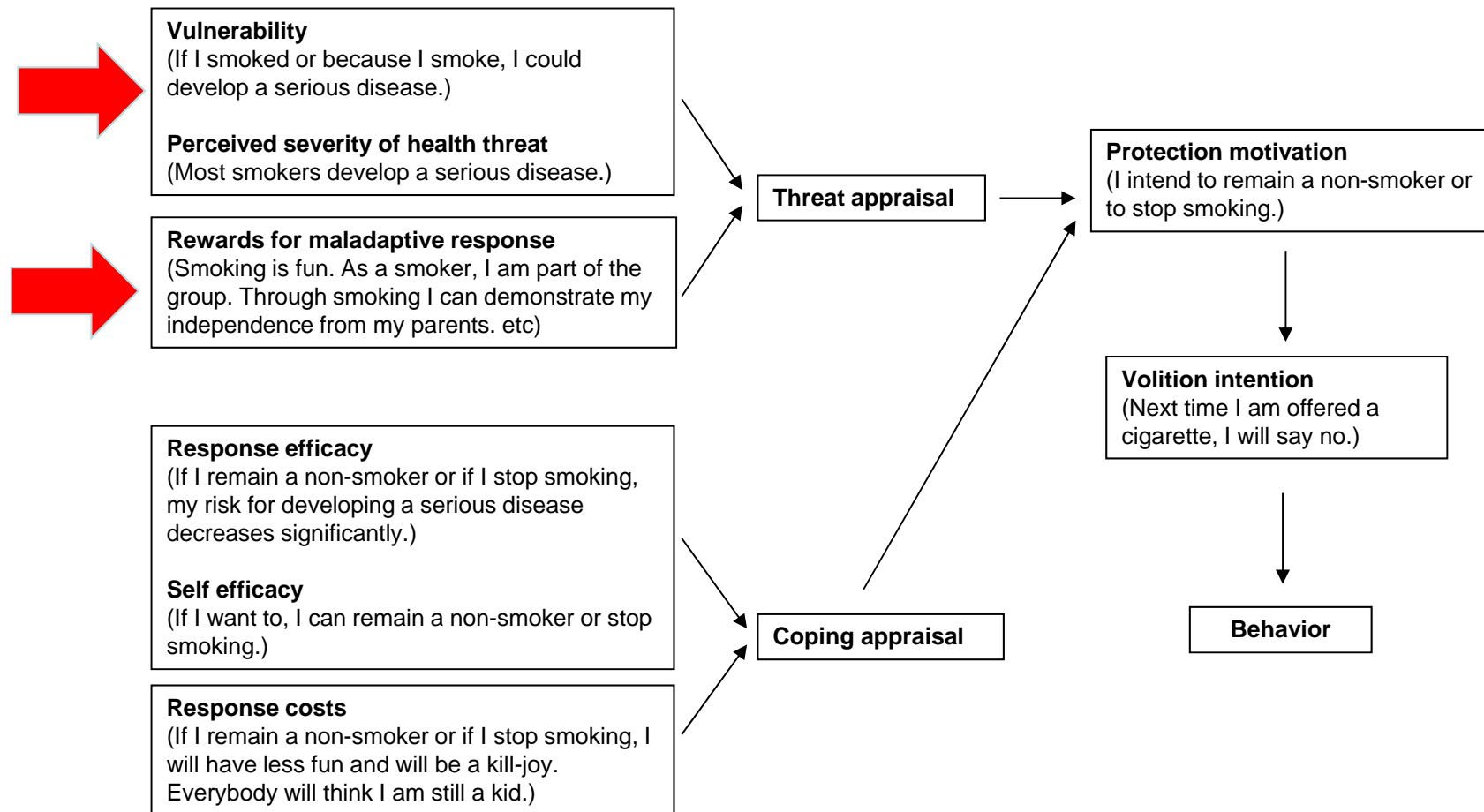
## Starting point (2)

- Yet, in European schools universal prevention continues to be dominated by information approaches (Burkhart, 2011)
- Emotionally arousing intervention at lung clinic is highly requested by schools in the area and reaches about 10.000 students annually
- Methods are more sophisticated nowadays
- Methods are highly and controversially discussed by researchers, practitioners, parents
  - potential iatrogenic effects?
  - what kind of role can this approach play in tobacco prevention?

# Research

- Warning label research
  - Graphic health warnings have emotionally arousing effects on youth (Bühler et al., 2007)
- Emotional activation is seen as an essential factor in therapy success (Whelton, 2004)
- Fear appeal research (de Hoog et al., 2007; Witte & Allen, 2000)
  - Fear appeals influence cognitive risk factors of tobacco use

# Intervention model: Protection Motivation Theory



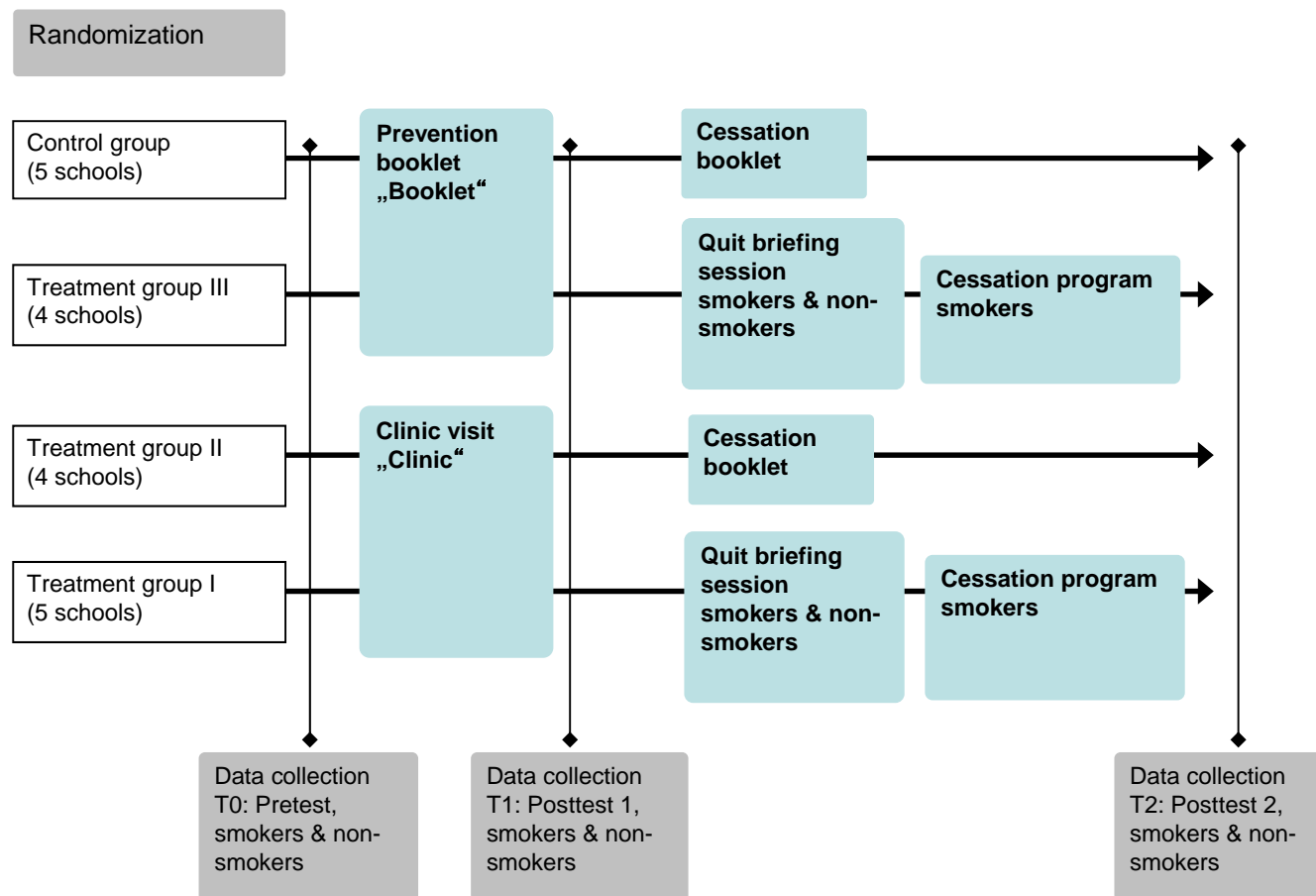
Expanded Protection Motivation Theory (Milne et al., 2002)

# Hypotheses of the current study

- Adolescent smokers and non-smokers react to an emotionally arousing intervention
  - Personal relevance
  - Credibility
  - Emotional arousal
- The intervention affects
  - Variables derived from Protection Motivation Theory
  - Knowledge about smoking
  - Smoking image
  - But not tobacco use



# Study design



Negative information in tobacco prevention, EUSPR 2011

# Sample & Instruments

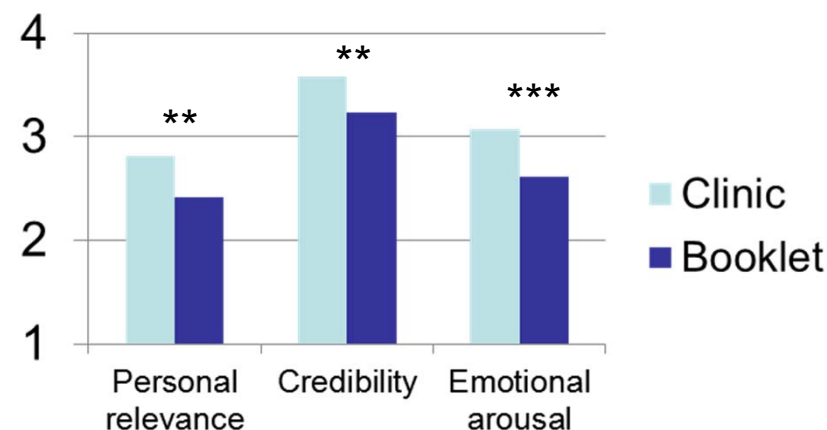
- 18 German schools (Haupt- & Realschule), Grades 7 to 9
  - N = 930 eligible students
  - Retention sample of n = 563 students analyzed (non-smokers at baseline)
  - Age 13.1 (.85) years
  - 275 (48,8%) female
  - PMT scales
- Pechmann et al., 2003



Negative information in tobacco  
prevention, EUSPR 2011

# Results I - Reaction to intervention

	„Clinic“ (n=248)	„Booklet“ (n=235)
Personal Relevance scale (1-4)	2.81 (1.11)	2.42 (1.08)
Credibility scale (1-4)	3.58 (.80)	3.23 (.95)
Emotional Arousal scale (1-4)	3.07 (.63)	2.62 (.75)



- In linear regression models, group membership significantly predicts ratings of

	Coeff. (95% CI)	t	p-value
Personal Relevance	.37 (.12-.63)	3.06	0.007
Credibility	.34 (.14-.55)	3.56	0.002
Emotional Arousal	.45 (.20-.71)	3.79	0.001

Negative information in tobacco prevention, EUSPR 2011

# Results 2 - Follow-up

- Effects of intervention clinic visit on
  - Variables from Protection Motivation Theory
  - Knowledge about smoking
  - Smoking image

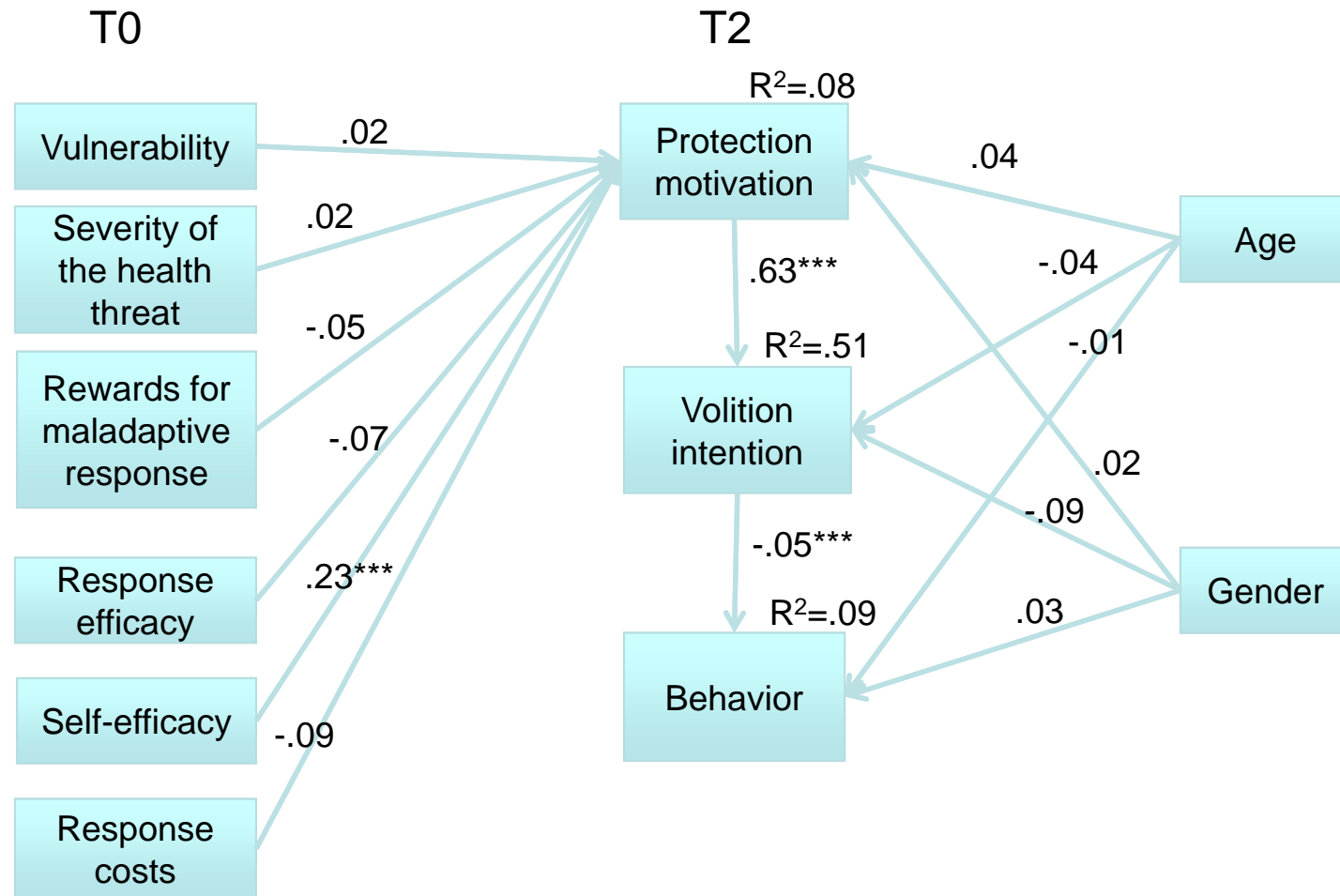
Outcomes	n	Clinic, mean (SD)		Booklet, mean (SD)		Significance		
		T0	T2	T0	T2	Coef. (95% CI) <sup>a</sup>	t	p-value
<b>Threat appraisal</b>								
Perceived severity	536	5.52 (2.94)	6.44 (3.04)	6.24 (2.77)	6.65 (3.11)	.07 (-.90-1.04)	0.16	0.87
Personal vulnerability	492	3.93 (.62)	4.17 (.77)	3.94 (.69)	4.09 (.87)	.10 (-.10-.29)	1.03	0.32
Rewards for maladaptive response	535	1.50 (1.35)	1.41 (1.66)	1.47 (1.32)	1.21 (1.39)	.19 (-.15-.53)	1.19	0.25
<b>Coping appraisal</b>								
Response efficacy	532	4.13 (1.02)	4.25 (.97)	4.13 (1.03)	4.19 (1.04)	.06 (-.10-.22)	0.8	0.43
Self efficacy	519	3.48 (.75)	3.53 (.72)	3.50 (.86)	3.53 (.69)	.02 (-.10-.13)	0.29	0.78
Response costs	535	2 (.92)	1.76 (.85)	2 (.94)	1.77 (.85)	-.02 (-.18-.14)	-0.29	0.77
<b>Intention</b>								
Protection Motivation	507	3.69 (.79)	3.73 (.75)	3.74 (.69)	3.84 (.56)	-.11 (-.22-.00)	-2.05	0.06
Volition intention	519	3.65 (.81)	3.71 (.74)	3.71 (.68)	3.72 (.69)	.02 (-.12-.15)	0.26	0.8
<b>General cognitions</b>								
Knowledge	511	7.79 (3.21)	8.79 (3.52)	8.18 (3.34)	8.88 (4.31)	.06 (-1.23-1.35)	0.1	0.92
Image	536	3.83 (2.21)	4.15 (2.14)	3.79 (2.16)	3.98 (2.32)	.18 (-.35-.71)	0.7	0.49

**Non-significant**

# Discussion

- Clinic based intervention is superior to booklet on dimensions of
  - Personal relevance
  - Credibility
  - Emotional arousal
- Clinic visit is not associated with effects on protection motivation variables, knowledge, and image 3 months later
- Why?
  - Ceiling effects in PMT variables
  - Intervention model not supported by data

# SEM of intervention model for “Clinic” condition



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# What role to play in tobacco prevention?

- Impact = Reach of target group x Effectiveness
- In schools, evidence-based measures are rarely implemented
- Ohne Kippe is very popular
- Ohne Kippe as an access strategy to schools to motivate them to implement effective behavioral or environmental measures

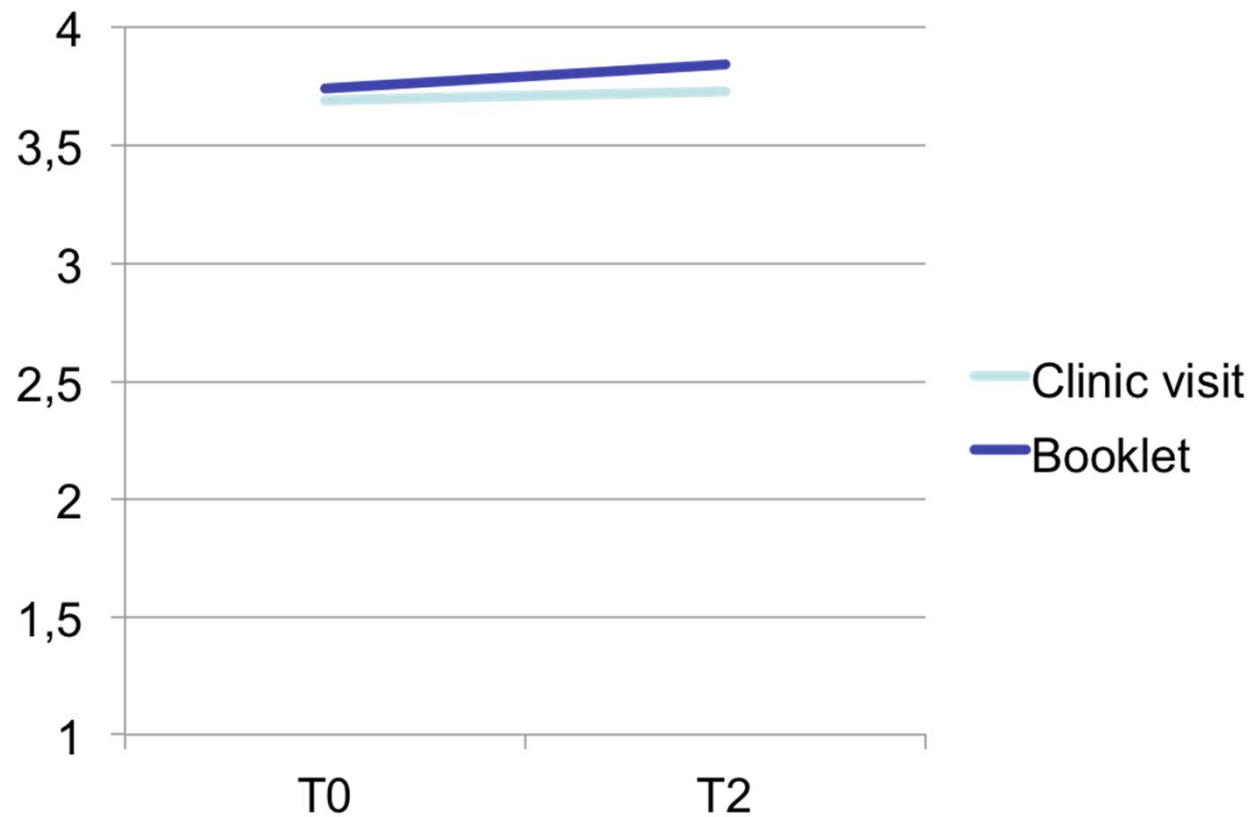
... thank you for  
your attention!

Contact:  
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# e.g. Protection motivation



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