Applying the theory of planned behavior to juvenile shoplifting

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Seminar on Theory of Planned Behavior,
at Charles University, Prague

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Overview

- Introduction to CRIMOC

- Data

- Measurements

- Descriptive Analyses

- Testing the TPB-Model using SEM

- Alternative Estimation Procedures

- Conclusion

Introduction to Crimoc
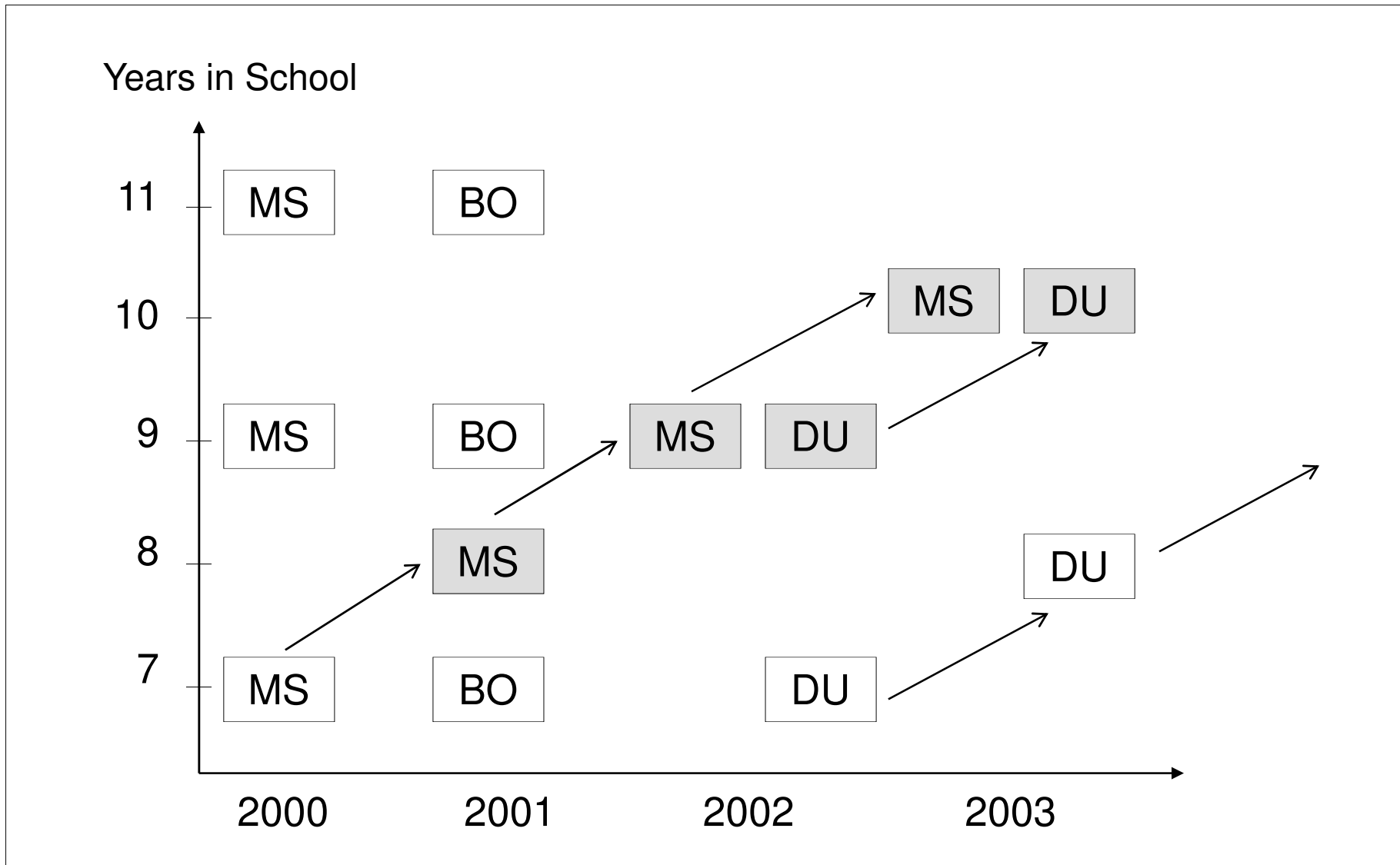
„Crime in the Modern City"

A longitudinal study of juvenile delinquency in Münster und Duisburg, funded by the German Research Foundation (Deutsche Forschungsgemeinschaft)

Principal Investigators:

Prof. Dr. Jost Reinecke, University of Bielefeld
Prof. Dr. Klaus Boers, University of Münster

http://www.crimoc.org

Shoplifting

- Shoplifting is an everyday occurrence of juvenile delinquency.

- It is the most frequent committed offense among youths.

- For many juveniles it is the only crime during their youth.

TPB and Shoplifting

Beck & Ajzen (1991)

Tonglet (2000), (2001)

Data

Münster

2-Wave-Panel 2001-2002 N = 1 233   approx. 52 % female,

2-Wave-Panel 2002-2003 N = 1 366   48 % male
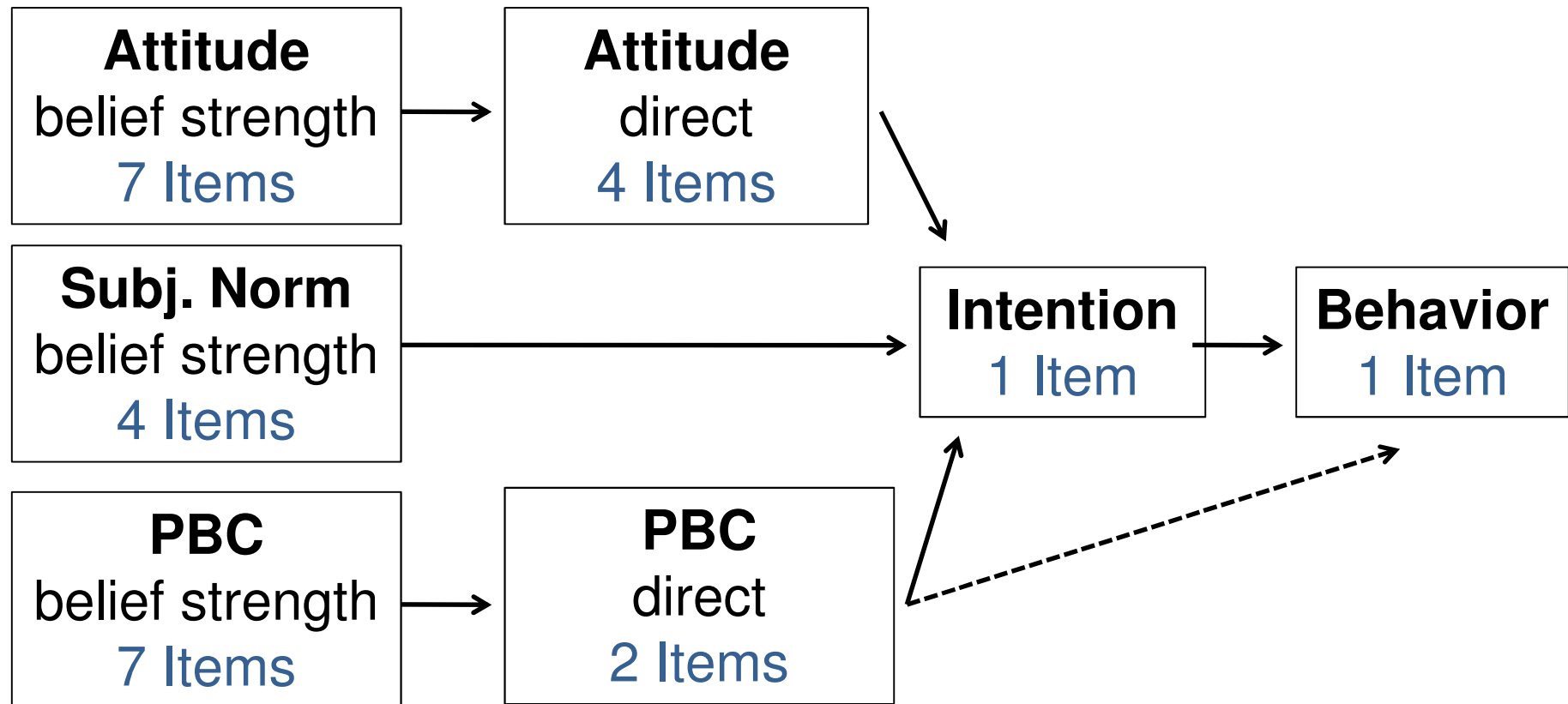
3-Wave-Panel 2001-2003 N = 1 053

Duisburg   approx. 54 % female,

2-Wave-Panel 2002-2003 N = 1 729   46 % male

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Measurements   Overview   (see handout)

Diagram:

Attitude belief strength — 7 Items → **Attitude** direct — 4 Items

Subj. Norm belief strength — 4 Items

PBC belief strength — 7 Items → **PBC** direct — 2 Items

Intention 1 Item → **Behavior** 1 Item

Measurements

Shoplifting Behavior

"Did you ever take something from a supermarket, shop or department store without paying for it?"

"How many times within the last year?"

Incidence recoded: 0,1, …, 12, 13 and more

Intention

"How likely is it that you really take something from a supermarket, shop or department store without paying for it within the next 12 months?"

1 = very likely / 6 = very unlikely

Attitude (direct), 4 Items

"What do you personally think about you stealing something from a supermarket, shop or big store? Taking something without to pay for it would be …"

1 = very good / 6 = very bad
1 = harmless / 6 = harmfull
1 = profitable / 6 = non-profitable
1 = hazard-free / 6 = risky

Attitude (belief strength), 7 Items

*"There might be different reasons for shoplifting in a super-market, shop or department store without paying for it, how likely would the following **reasons** be for you personally?"*
1 = very likely / 6 = very unlikely

- like an adventure, something to get a kick out of it
- only way to get things I like and can't afford
- doesn't hurt a large shop
- gives a feeling of success
- is like an addiction
- is like a test of courage
- something stolen can easily be sold

Subjective norm (4 referent groups, belief strength)

"In your opinion what would the following persons think about you taking something from a supermarket, shop or department store without paying for it?"

1 = very likely / 6 = very unlikely

My **parents** think about shoplifting as a very bad thing.
My **friends** think about shoplifting as a very bad thing.
My **teachers** think about shoplifting as a very bad thing.
My **classmates** think about shoplifting as a very bad thing.

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Perceived Behavioral Control (7 Items, belief strength)

"There might be different **circumstances that keep someone from stealing** *from a supermarket, shop or department store. How likely is it, that these circumstances would make it difficult for you or keep you from it?"*

1 = very likely / 6 = very unlikely

- attentive shop detectives and salespersons would catch me
- safety stickers, cameras, alarm systems make it impossible
- afraid of an order to stay away from the shop
- getting caught would make me feel very embarrassed
- I'd be afraid of being reported and of the police.
- I'd have a bad conscience for a long time.
- If other persons who know me found out about it, it would have bad consequences for me.

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Perceived Behavioral Control (2 Items, direct)

„*What do you think, how difficult is it for people of your age to take something from a supermarket, shop or department store without paying for it, without getting caught.*"

1 = very difficult / 6 = not difficult at all

„*How likely do you think is it for you to take something undetected and without getting caught?*"

1 = very likely / 6 = very unlikely

Descriptive Analyses

Shoplifting prevalence / incidence

	%	mean
Münster 2000, 7	16.9	0.72
Münster 2001, 8	20.8	0.87
Münster 2002, 9	20.3	1.21
Münster 2003, 10	13.2	0.68
Duisburg 2002, 9	20.9	0.76
Duisburg 2003, 10	13.3	0.62

Intentions   Intentions to shoplift are very week.

The average intention varies among the two towns and the observed time points between **5.1** and **5.5** on the 6-point-scale (6 meaning shoplifting is very unlikely).


Attitudes   In general the attitude towards shoplifting is rather negative.

mean of ‚direct' items   4,2 – 5,2
mean of belief items   3,9 – 5,1

Markov-Models illustrate strong relations between different attitude measures and also stability over time.

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Measurement of Attitudes, Münster 2001-2003, stand. coefficients

Chi² 688,03 (df=316), RMSEA = .04, GFI =.94, AGFI =.93
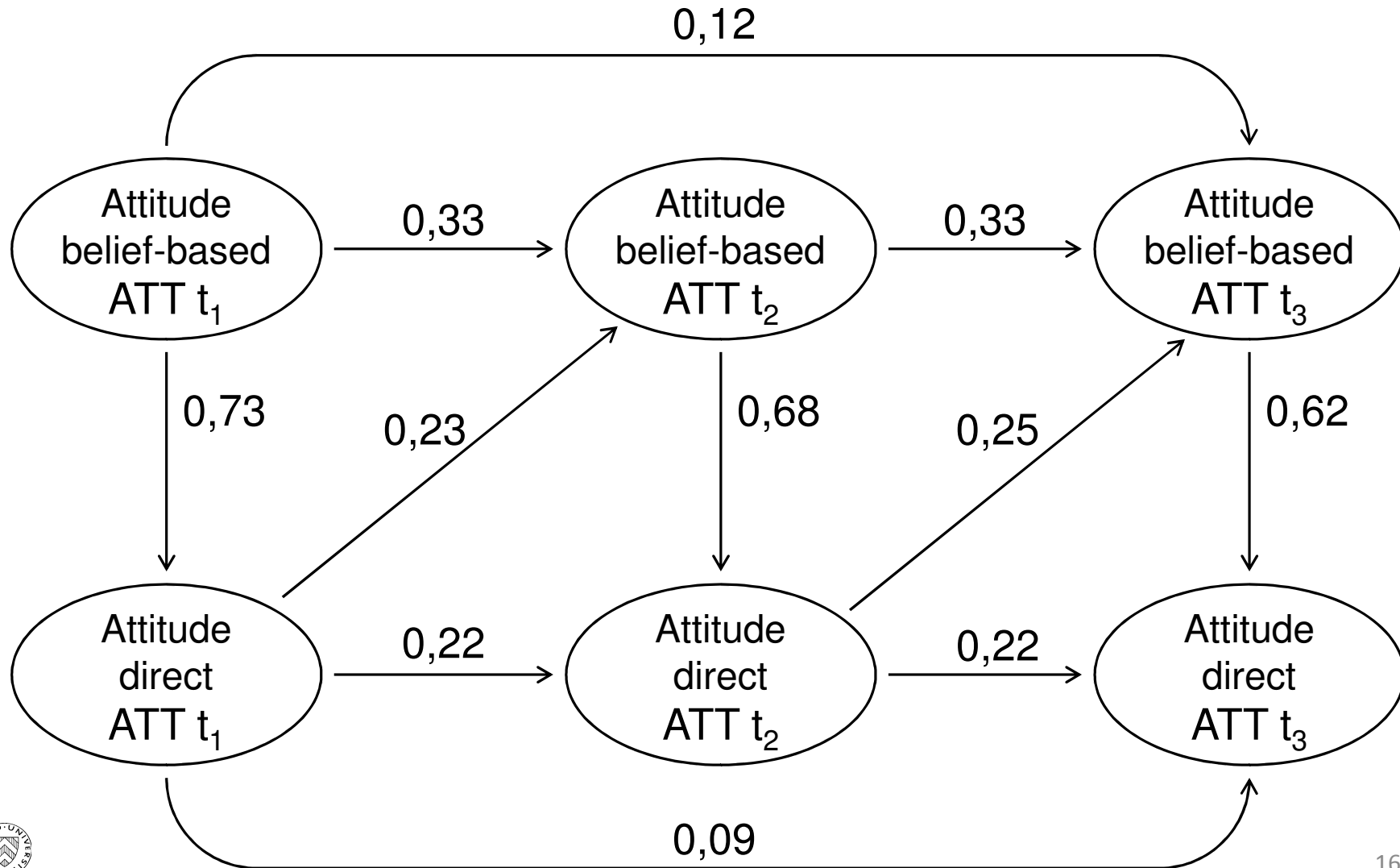
Subjective Norms

two groups of referents can be distinguished:

adults   parents and teachers do not support shoplifting
means between 1.5 and 1.7

("shoplifting is a very bad thing" 1 = very likely)

peers   friends and classmates support shoplifting to
some extend
means between 3.2 and 3.4

Perceived Behavioral Control

Respondents think that shoplifting is easy for people in their age (means 4.0 – 4.5 / 6 = not difficult at all).
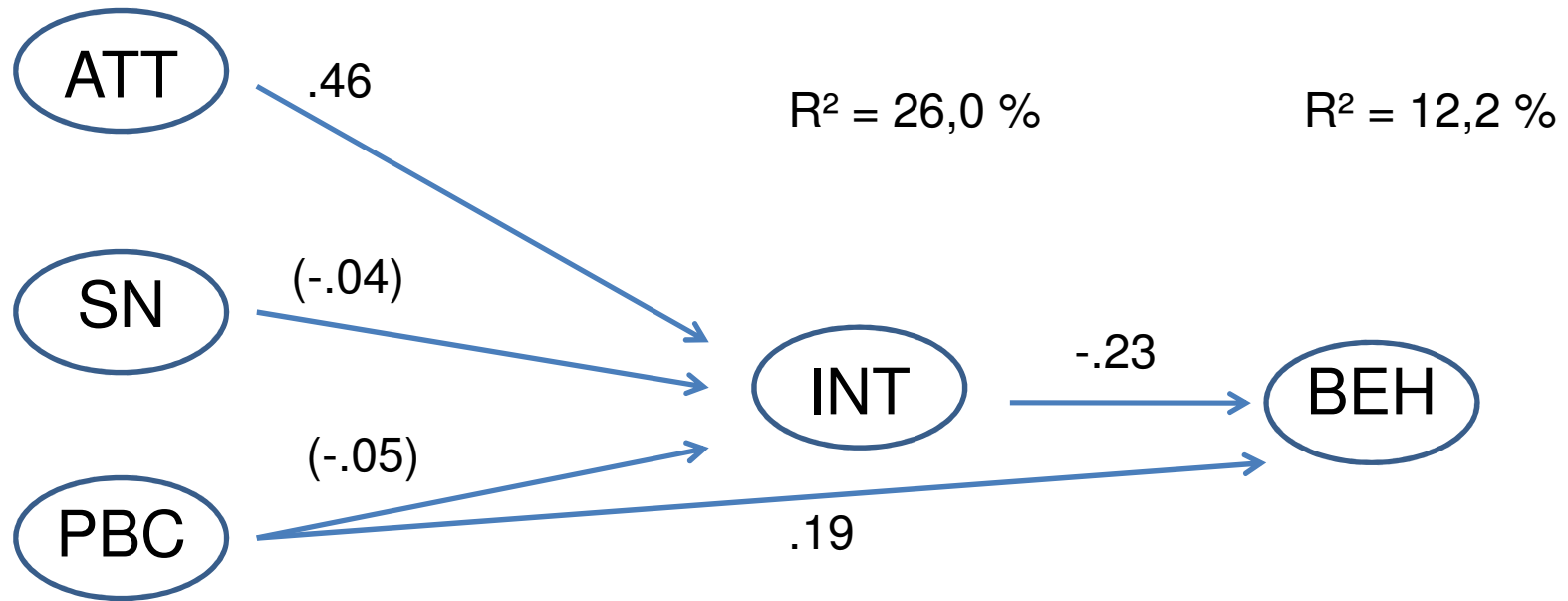
And they think that it is quite likely for themselves to commit shoplifting without being caught (means 3.5 – 3.9 / 6 = very likely).

On the other hand all the mentioned circumstances that might keep someone from shoplifting are also very likely
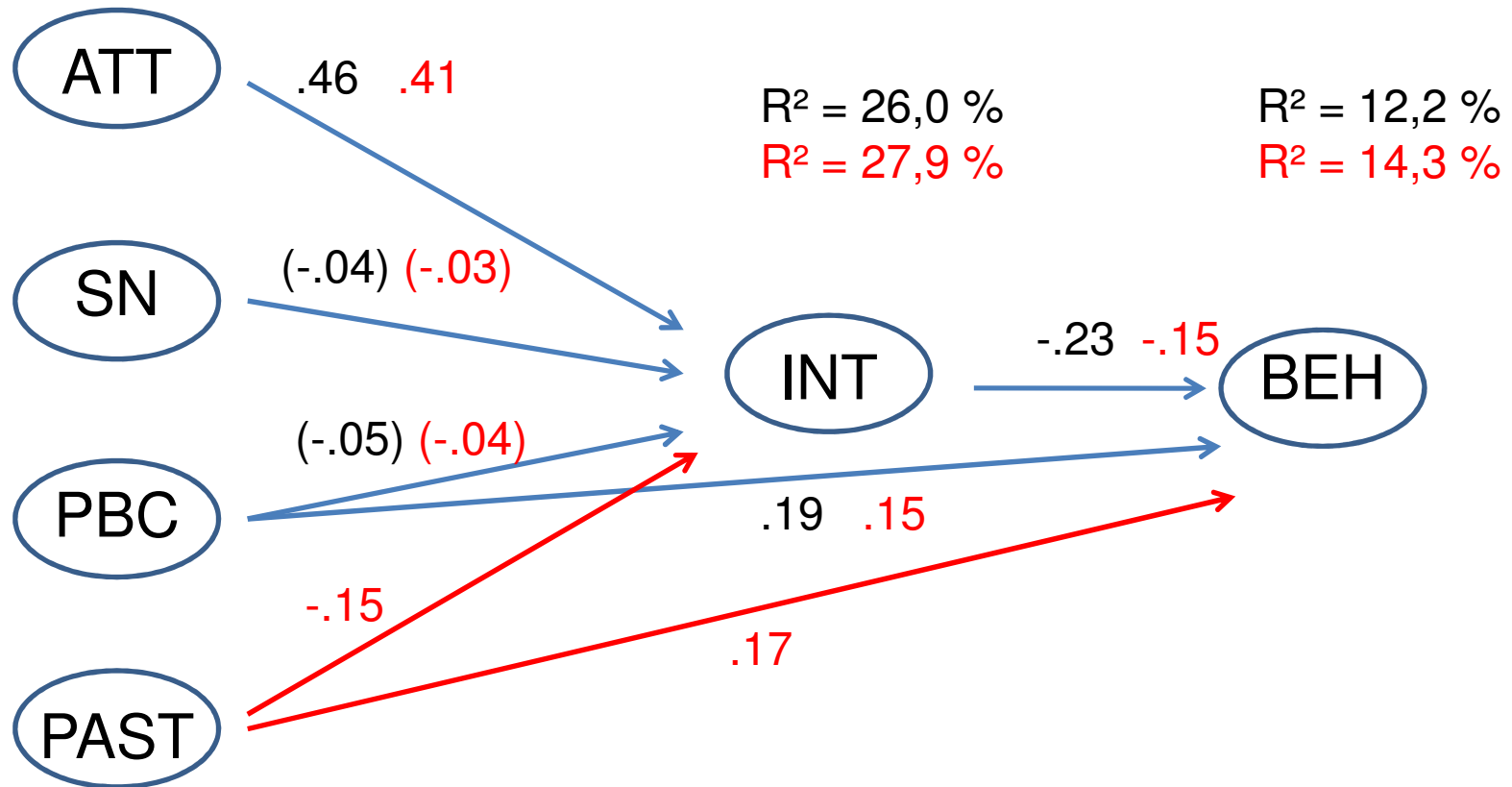(means 2.1 – 3.0 / 1 = very likely)

Testing the TPB-Model using SEM

- Using a reduced set of indicators (ATT 3 items, SN 2 items, PBC 4 items, INT and BEH 1 item)

- Using covariances, pairwise deletion of missing data, ML-Estimation with LISREL 8.8

- Within 3-W-Panel the corresponding loadings of an item and also corresponding error terms are set equal over time. Corresponding error terms may correlate over time (autocovariance).

- standardized factor loadings are 0.60 and higher

- (Negative) signs of coefficients are results of coding

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Two-Wave-Panel, Münster 2001-2002, standardized coefficients

ATT

.46

$R^2 = 26,0\ \%$

$R^2 = 12,2\ \%$

SN

(-.04)

INT

-.23

BEH

PBC

(-.05)

.19

Chi² 103.15 (df=43), RMSEA = .04, GFI .98, AGFI = .97

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Two-Wave-Panel, Münster 2001-2002, standardized coefficients

ATT

.46 .41

SN

(-.04) (-.03)

PBC

(-.05) (-.04)

-.15

PAST

.17

INT

R² = 26,0 %
R² = 27,9 %

-.23 -.15

.19 .15

BEH

R² = 12,2 %
R² = 14,3 %

Chi² 103.15 (df=43), RMSEA = .04, GFI .98, AGFI = .97

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Two-Wave-Panel, Duisburg 2002-2003, standardized coefficients

ATT → .51

SN → (-.06)

PBC → (.03)

INT

$R^2 = 27,4\ \%$

INT → BEH   -.26

BEH

$R^2 = 8.9\ \%$

.08
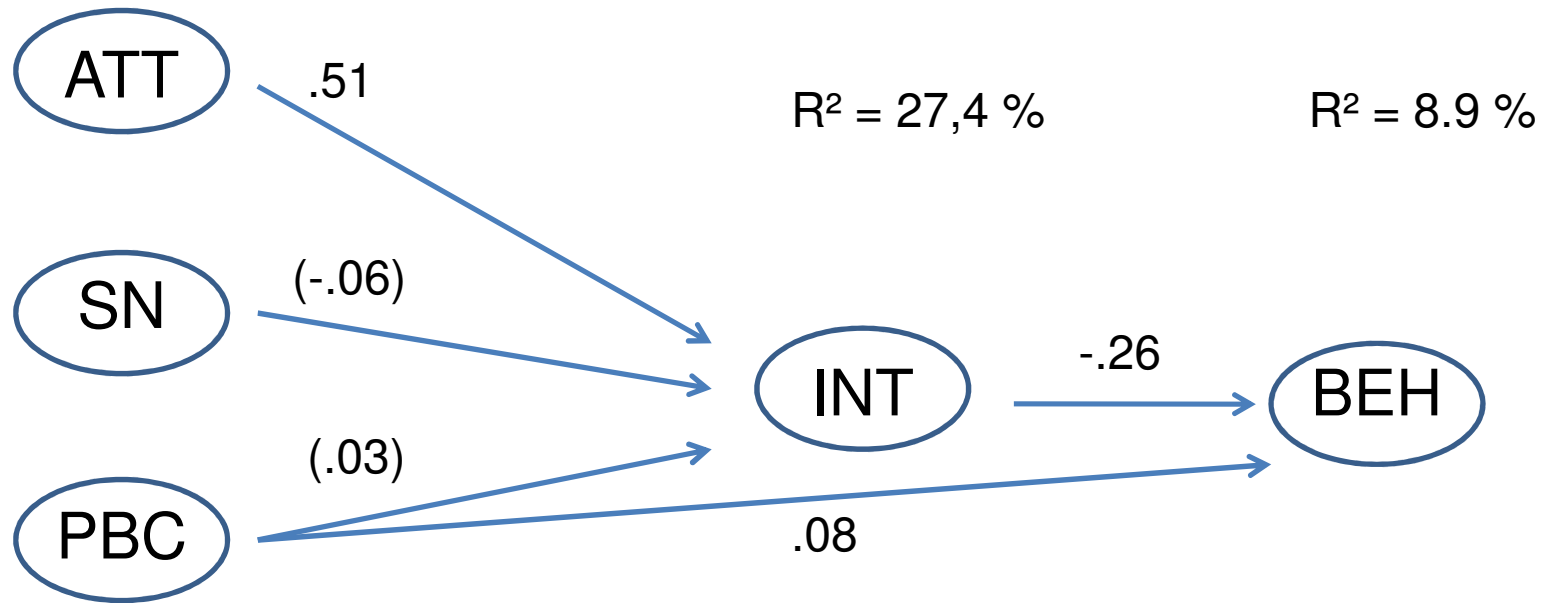
Chi² 189.50 (df=36), RMSEA = .05, GFI .97, AGFI = .95

Two-Wave-Panel, Duisburg 2002-2003, standardized coefficients

ATT

SN

PBC

PAST

INT

BEH

.51 .46

(-.06) (-.06)

(.03) (.03)

-.11

.23

-.26 -.21
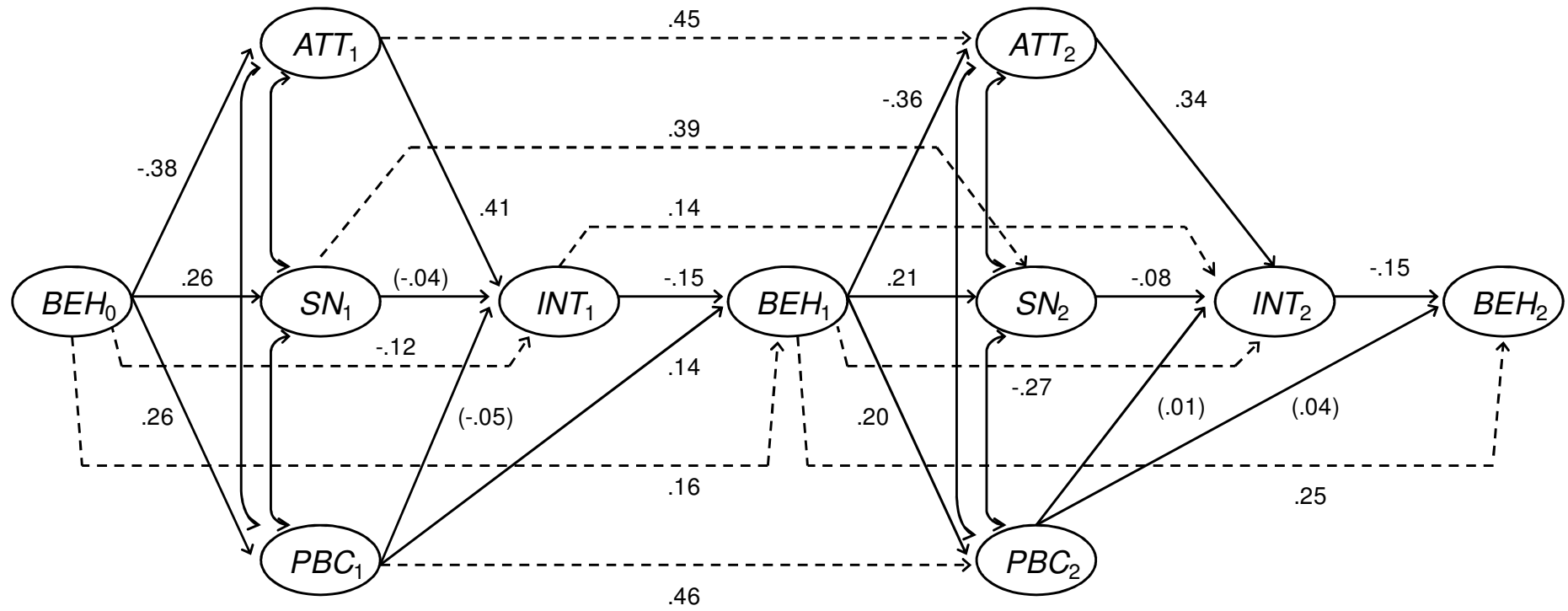
.08 .02

R² = 27,4 %
R² = 28,6 %

R² = 8.9 %
R² = 13,1 %
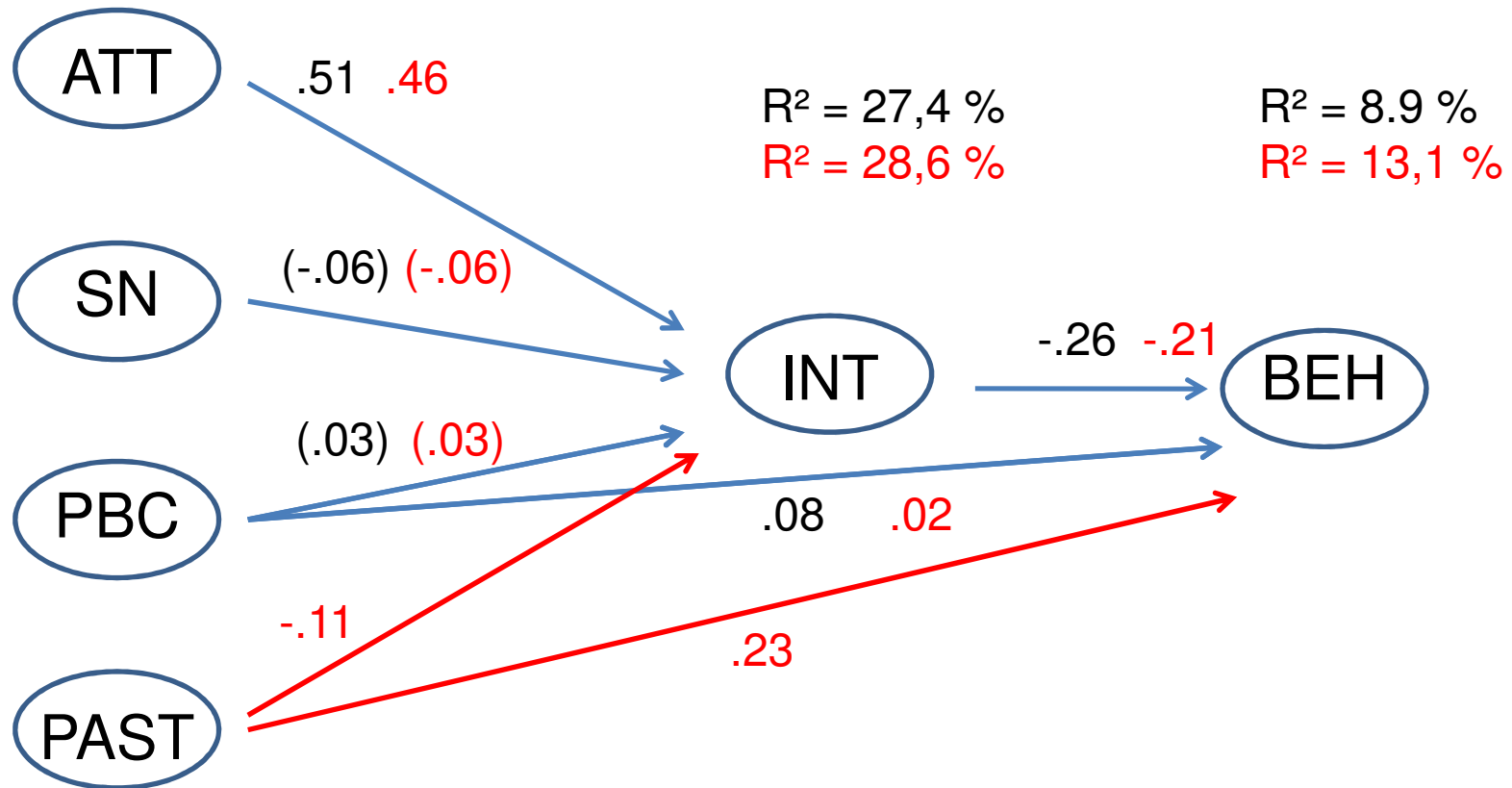
Chi² 189.50 (df=36), RMSEA = .05, GFI .97, AGFI = .95
Chi² 190.27 (df=42), RMSEA = .05, GFI .98, AGFI = .96

Three-Wave-Panel, Münster 2001-2003

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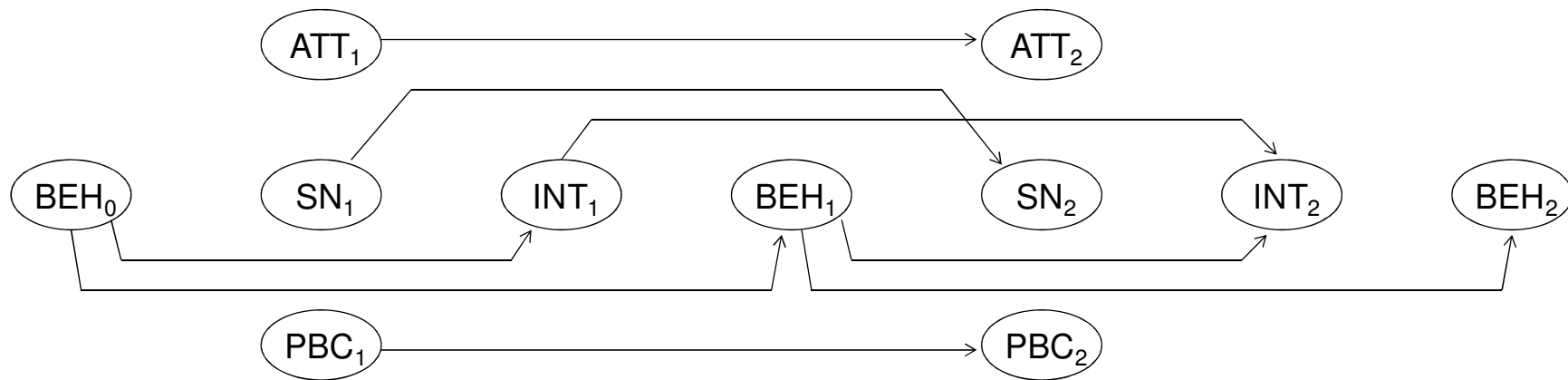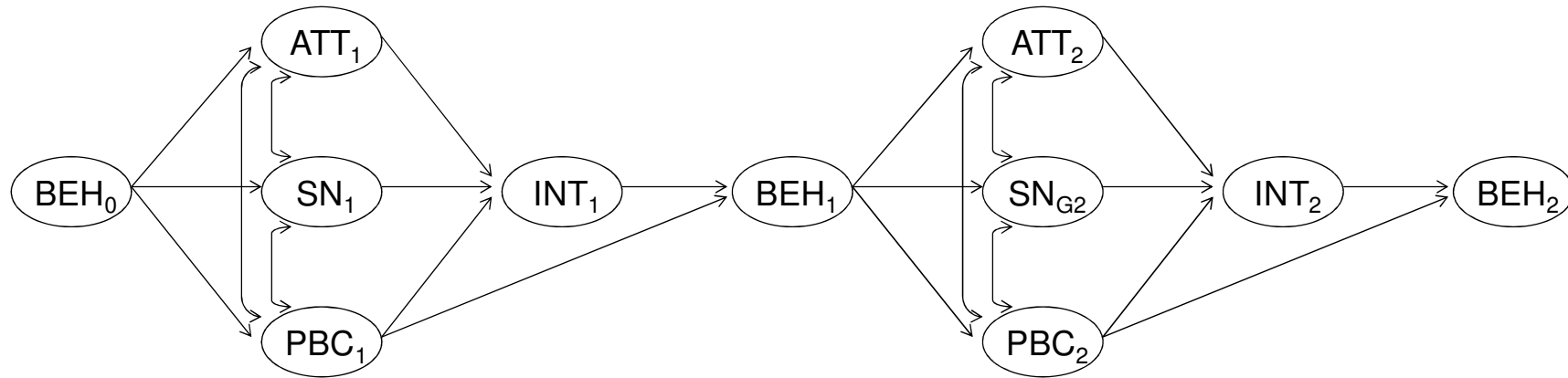
Three-Wave-Panel, Münster 2001-2003

	BEH_0	ATT_1	SN_1	PBC_1	INT_1	BEH_1	ATT_2	SN_2	PBC_2	INT_2	R^2
$INT_1 =$	-.12	.41	(-.04)	(-.05)							27.0
$BEH_1 =$	.16			.14	-.15						10.6
$ATT_2 =$		.45				-.36					40.4
$SN_2 =$			.39			.21					22.0
$PBC_2 =$				.46		.20					29.2
$INT_2 =$					.14	-.27	.34	-.08	(.01)		37.9
$BEH_2 =$						.25			(.04)	-.15	13.2

Chi² 367.70 (df=213), RMSEA = .03, GFI .96, AGFI = .95

Alternative Estimation Procedures

Problems: item non-response (missing values)

skewed data

Procedures: pairwise deletion, ML-Estimation

listwise deletion, ML-Estimation

listwise deletion, robust ML-Estimation

listwise deletion, WLS-Estimation

Full Information Maximum Likelihood (FIML)

Results: parameters are very similar

                using FIML does not change results very much

                correcting for skewness is usefull, in this

                application robust ML works best

But the lack of multiple indicators of dependent concepts limits the comparison of estimation procedures.

Conclusions

- respondents attitude to shoplifting are negative

- support by peers differs

- perceptions of risk differ but deterring factors are likely

- attitudes, subjective norms and perceived behavioral control are highly correlated

- shoplifting intentions are week

- attitudes predict intentions, no or very small effects of subjective norms and perceived behavoral control (no „peer pressure", no effect of perceived deterrent factors)

Conclusions

- intentions predict behavior

- past behavior improves explanation of intentions and behavior

- only moderate explanation of intentions ($R^2 = 26 - 32\%$) and behavior ($R^2 = 9 - 12\ \%$)

Thank you!

Questions for Discussion

- What about the long time intervalls?

- Is the integration / interpretation of past behavior necessary?

- Does past behavior reflects experience or the habit of legal consuming?

- Further alternatives of estimation?