Applications of the Theory of Planned Behavior (TPB) and the Situational Action Theory (SAT) in the Context of Criminological Research

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Introduction (Application TPB)

- The TPB is applied within the panel study *Crime in the Modern City* (CrimoC, PIs: Klaus Boers and Jost Reinecke) due to the prediction of the specific delinquent behavior *shoplifting*.
- The CrimoC study is designed to observe and explain the emergence and development of delinquent behavior throughout the phase of adolescence and young adulthood within a medium-size and a large Western German city (Münster and Duisburg).
- The pilot study in Münster is conducted between 2000 and 2003 and contains panel data of four waves (students from 7th grade to 10th grade).
- The main study in Duisburg is initiated 2002 (students from 7th grade) and proceeded annually until 2009 (biannually from 2009 to 2019).

Introduction (Application SAT)

- The SAT is applied within the panel study *Chances and Risks over the Life Course* (CURL, PIs: Jost Reinecke and Mark Stemmler)

- The CURL study is designed to observe and explain the emergence and development of deviant and delinquent behavior and significance for processes of social inequality.

- The study is conducted between 2012 and 2014 in two German cities (Dortmund and Nuremberg) and contains data of three panel waves for two cohorts (students from 7th grade and 9th grade).

- The study was part of the CRC 882 (*From Heterogeneities to Social Inequalities*) located between 2011 and 2015 at the Faculty of Sociology (University of Bielefeld).

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Application TPB

Wittenberg 2009; Wittenberg & Reinecke & Boers 2009, 2011

- Shoplifting is an everyday occurrence of juvenile delinquency. It is the most frequent committed offence among youths.
- 12 months prevalence rates (shoplifting): **15.9 %** (7th grade), **18.6 %** (8th grade), **14.6 %** (9th grade), **9.4 %** (10th grade)
- 12 months prevalence rates (theft in total): **20.9 %** (7th grade), **27.5 %** (8th grade), **22.6 %** (9th grade), **18.0 %** (10th grade)

TPB and Shoplifting

- Beck & Ajzen (1991)
- Tonglet (2001)

TPB and Pickpocketing

- Keller & Miller (2015)

Application TPB (Model)

Measurements   **Overview**

| 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**
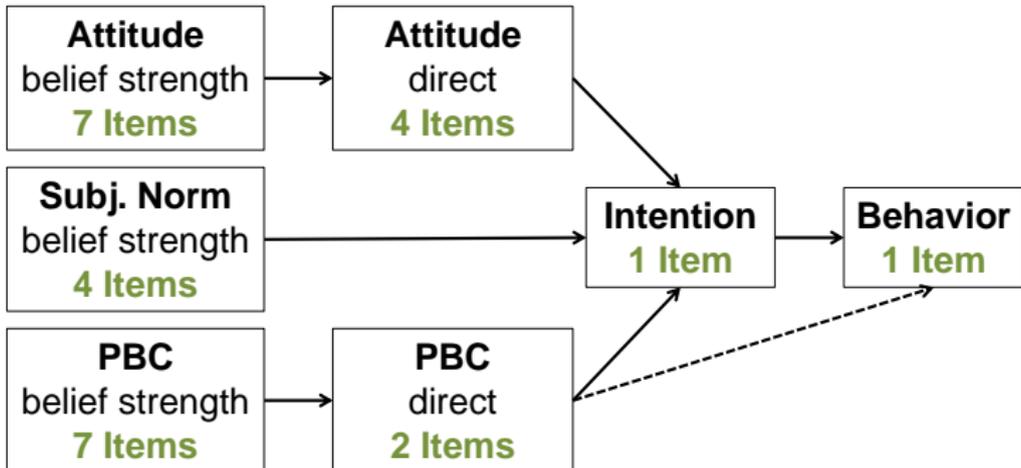
Application TPB (Survey Design)
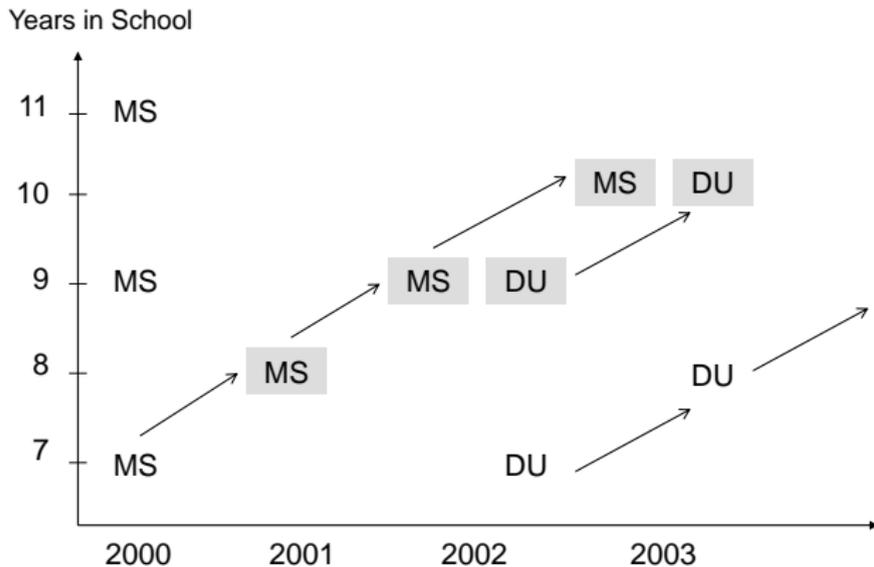
Application TPB (Data)

Sample Münster

- 2-Wave-Panel 2001-2002, $N = 1233$
- 2-Wave-Panel 2002-2003, $N = 1366$
- 2-Wave-Panel 2001-2003, $N = 1053$

Sample Duisburg

- 2-Wave-Panel 2002-2003, $N = 1729$

Application TPB (Descriptive Results)

Intentions

- Intentions to shoplift are very weak.
- The average intention varies 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* measurements: **4.2 – 5.2**
  Mean of belief items: **3.9 – 5.1**

Application TPB (Descriptive Results)

Subjective Norm

Two groups of referents can be distinguished:

1. Adults, parents and teachers do not support shoplifting.
   ($\bar{x}$ between **1.5** and **1.7**)

2. Peers, friends and classmates support shoplifting to some extend.
   ($\bar{x}$ between **3.2** and **3.4**)

(*shoplifting is a very bad thing*, 1 = very likely)

Application TPB (Descriptive Results)

Perceived Behavioural Control

1. Respondents think that shoplifting is easy for people in their age.
   ($\bar{x}$ between **4.0** and **4.5** / **6** = not difficult at all)

2. And they think that it is quite likely for themselves to commit shoplifting without being caught.
   ($\bar{x}$ between **3.5** and **3.9** / **6** = very likely)

3. On the other hand all the mentioned circumstances that might keep someone from shoplifting are also very likely.
   ($\bar{x}$ between **2.1** and **3.0** / **1** = very likely)

Application TPB (Model Construction)

- Testing the TPB using SEM using a reduced set of items (ATT: 3 items, SN: 2 items, PBC: 4 items, INT: 1 item, BEH: 1 item)

- Pairwise deletion of missing data, ML-estimates obtained with LISREL 8.8

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

- Standardized factor loadings are ≥ 0.60

- Negative signs of estimated coefficients between intention and behaviour are due to coding.

Application TPB (Model Results)
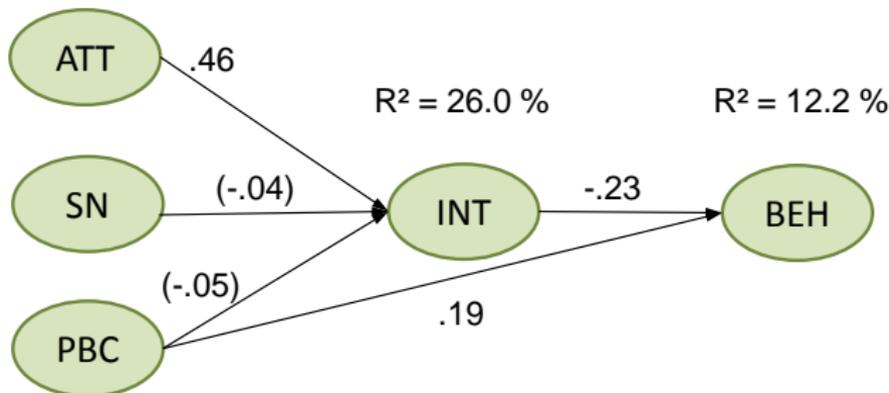
Two-Wave-Panel, Münster 2001–2002

( ) = estimates are not significant

Application TPB (Model Results)

Two-Wave-Panel, Münster 2001–2002
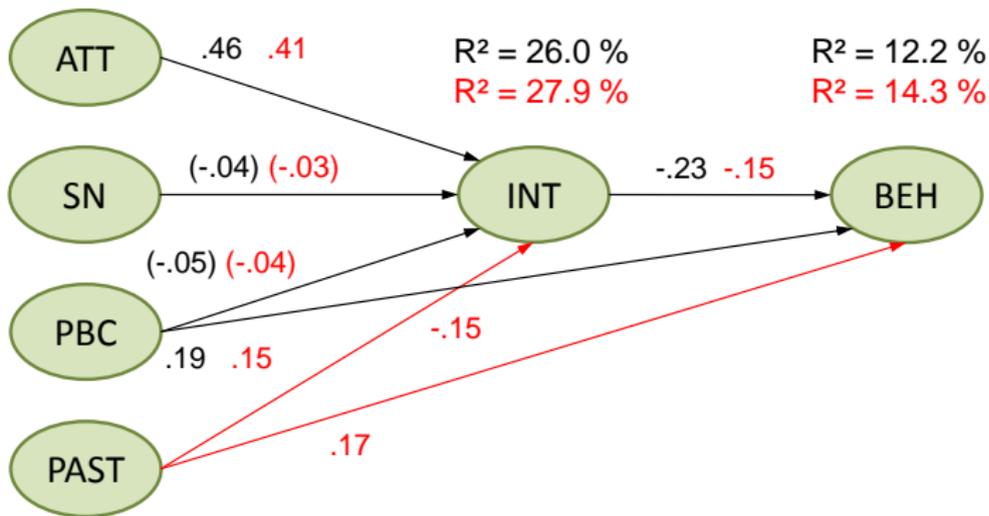
( ) = estimates are not significant

# Application TPB (Model Results)

Two-Wave Panel, Duisburg 2002–2003
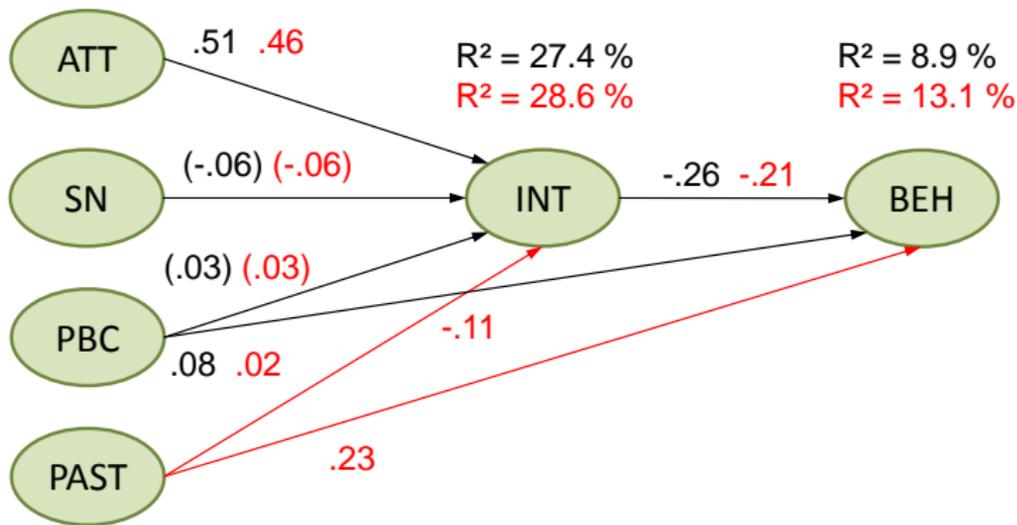
( ) = estimates are not significant

Application TPB (Model Results)

Three-Wave-Panel, Münster 2001–2003
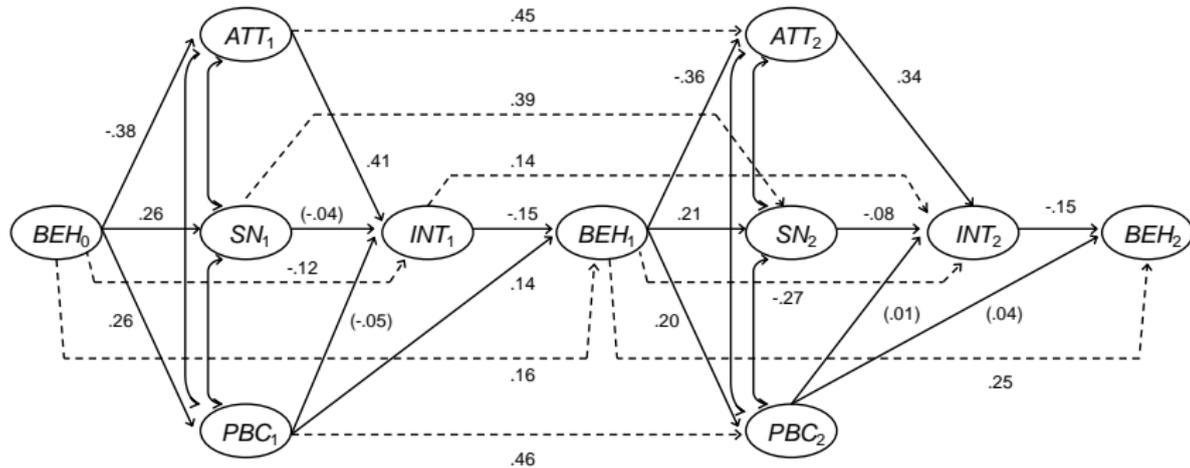
( ) = estimates are not significant

Application TPB (Model Results)

Three-Wave-Panel, Münster 2001–2003, Total Effects

	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

( ) = estimates are not significant

Conclusions (TPB)

- On the average respondents' attitudes toward shoplifting are negative.
- Attitudes predict intention, but no or very small effects of subjective norms and perceived behavioural control (no *peer pressure* detected, no effect of perceived deterrent factors).
- Perceptions of risk differ but deterring factors are likely.
- Intention to shoplift are weak. Intention predict behaviour moderately.
- Past behaviour improves explanation of intention and behaviour moderately.
- Explained variance of intention: $R^2 = 26\% - 29\%(38\%)$
- Explained variance of behaviour: $R^2 = 12\% - 14\%(13\%)$

Contents

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Tonglet, M. (2001). Consumer misbehaviour: An exploratory study of shoplifting. *Journal of Consumer Behaviour*, 1, 4, 336-354.

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im Jugendalter: Ergebnisse einer aktuellen
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Wittenberg, J., Reinecke, J. & Boers, K. (2011).
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und Erklärungsansätze im Rahmen von
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Tarnai (Hg.), Sozialwissenschaftliche Forschung in
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Webpage CrimoC: `www.crimoc.org`

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Situational Action Theory

- Situational Action Theory (SAT) is a general, dynamic theory of crime causation which analyses crime as acts of rule-breaking and stresses the importance of the person-environment interaction.

- SAT insists that people are the source of their actions but that the causes of their actions are situational.

- People's particular perception of action alternatives, process of choice and execution of action are triggered and guided by the relevant input from the person-environment interaction.

- Crime is explained as moral action to avoid the problem that some actions are defined as crimes at some time, or in some place, but not at other times, or in other places.

- The explanation of crime as moral action has the great advantage on being applicable to all kinds of crime.

Situational Action Theory

Definition (Moral Actions)

Actions which are guided by value-based rules of conduct specifying what is the right or wrong thing to do (or not do) in response to particular motivations in particular circumstances.

Definition (Acts of crime)

Breaches of rules of conduct stated in law.

SAT asserts that the same process which explains why people follow or break rules of law should also explain why they follow or break other kinds of moral rules (e.g., informal rules of conduct).

Situational Action Theory

Definition (Propensity)

Tendency to see and choose acts of crime as an action alternative.

Definition (Exposure)

Encounters with settings in which the (perceived) moral norms and the (perceived) levels of enforcement encourage breaches of rules of conduct.

Definition (Personal Morals)

Internalised rules of conduct including supporting emotions such as shame and guilt.

Definition (Self Control)

Ability to withstand external pressure to act against one's own morals.

Situational Action Theory

- SAT proposes that people's crime propensity is largely dependent on their law-relevant **personal morals** and their ability to exercise **self-control**. The closer a person's personal morals correspond to specific rules of conduct stated in the law, the less prone he or she is to violate these rules.

- The stronger a person's ability to exercise **self-control**, the less likely he or she is to be enticed to act contrary to his or her own **personal morals**.

- SAT predicts, at one extreme, that people with strong law-relevant **personal morals** and a strong ability to exercise **self-control** are largely resistant to momentary criminogenic influences of settings, while at the other extreme those who have weak law-relevant **personal morals** and a poor ability to exercise **self-control** are vulnerable to momentary influences of criminogenic settings.

Situational Action Theory

$$\text{Propensity} \times \text{Exposure} = \text{Action}$$

Person   Environment
↓   ↓
Perception Choice Process
↓
Action

Situational Action Theory

| Perception | Choice | Action |

Propensity X Exposure → Crime is an action alternative → Deliberation → crime / no crime; → Habit → crime

Propensity X Exposure → Crime is not an action alternative → no crime
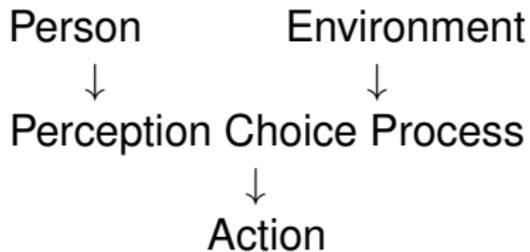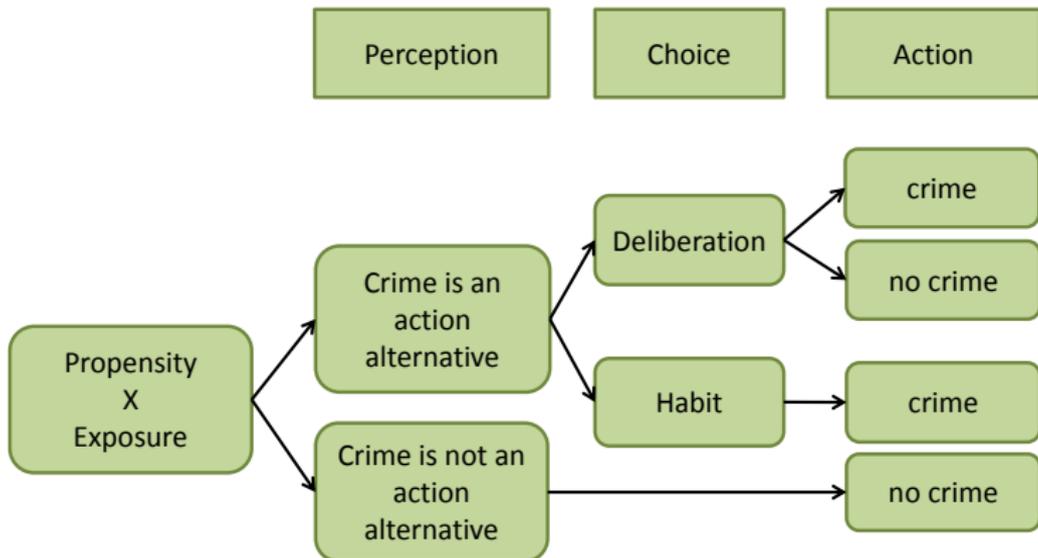
Key steps of the perception-choice-process

Situational Action Theory

State of Research

- **Exposure & propensity**: This line of research focuses on testing the interaction effects of propensity and exposure (in reference to life-style) for the explanation of criminal behaviour (for example, Wikström et al., 2012).

- **Deterrence & propensity**: These studies concentrate on the interactional effects of propensity and deterrence to account for the principles of moral correspondence and the conditional role of controls as hypothesized in SAT (for example, Hirtenlehner, 2014).

- **Morality & self-control**: These empirical tests focus on the interaction of personal morality and the ability to exercise self-control as the second principle of moral correspondence and the conditional relevance of controls (for example, Svensson et al., 2010).

- *Causes of the causes* & selection effects: These studies mainly concentrate on the mediation effects of informal social controls on propensity (for example, Pauwels and Svensson, 2010).

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Application SAT

Conditional Relevance of Control (Schepers & Reinecke 2018)

Exposure

	high	low
high	**Crime likely, controls irrelevant**	**Crime is driven from individual level**
low	**Crime is driven from environmental level**	**Crime not likely, controls irrelevant**

Propensity (row label on left side)

Application SAT

Simultaneously tests for self-control and deterrence effects in different subgroups

1. People vary in their crime propensity and their exposure to criminogenic settings. They can be divided into persons who experience both **crime encouraging propensity and exposure**, or both **discouraging propensity and exposure**.

2. We assume that there are also people who experience a lack of moral correspondence by either having a **discouraging propensity and encouraging exposure** or, an **encouraging propensity and discouraging exposure**.

3. **Deterrence** has a greater effect in people with an **encouraging propensity and discouraging exposure**, and that **self-control** has a stronger effect in people with a **discouraging propensity and an encouraging exposure**.

4. In groups where propensity and exposure either both encourage or both discourage crime, controls are hypothesised to lack effects on the decision to commit an act of crime.

Application SAT

Principle of the conditional relevance of controls

Propensity (Morality	Exposure (Moral Context)	
& Self-Control)	Conducive to Crime	Not Conducive to Crime
Conducive to Crime	Crime is likely (controls are irrelevant)	Crime is driven from the individual level (expression depends on deterrence)
Not Conducive to Crime	Crime is driven from the environmental level (expression depends on self-control)	Crime is unlikely (controls are irrelevant)

Application SAT

Expected influences of controls on delinquent behaviour

	encouraging propensity, encouraging exposure	discouraging propensity, encouraging exposure	encouraging propensity, discouraging exposure	discouraging propensity, discouraging exposure
self-control	0	+	0	0
deterrence	0	0	+	0

Even though effects are expected to be zero, one can expect effects to some degree as well.

Application SAT

Study Design
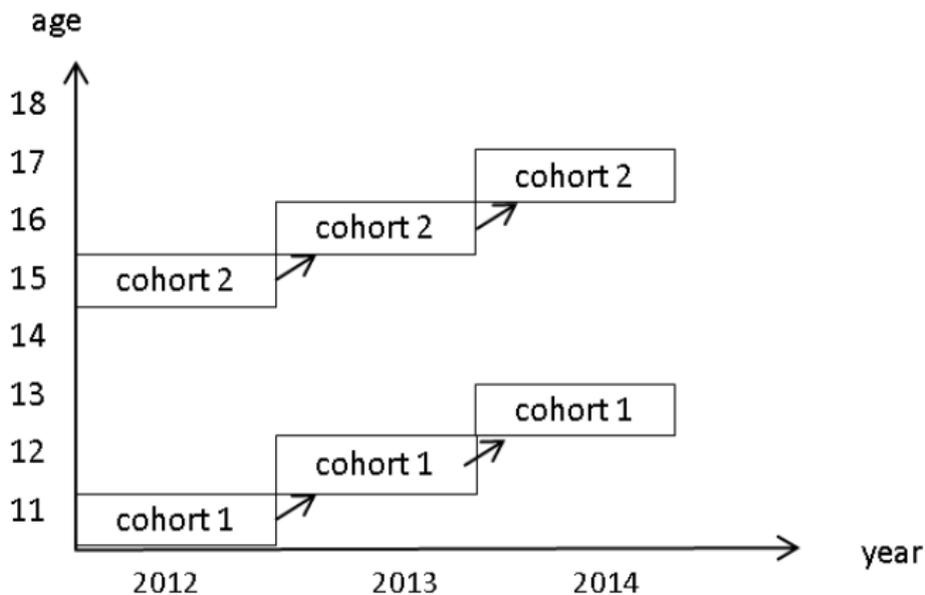
Application SAT

Data: young cohort (n=2180)

Exposure

	high	low
Propensity high	crime N = 361	deterrence N = 271
low	self-control N = 521	no crime N = 1027

Application SAT

Data: old cohort (n=1005)

Exposure

	high	low
high	crime N = 202	deterrence N = 266
low	self-control N = 138	no crime N = 399

Propensity

Application SAT

Results of the multiple-group models on crime versatility for the **young cohort**

	unconstrained model				constrained model
	crime	self-control	deterrence	no crime	
risk seeking (self-control)	.96***	.30**	.20	.06**	.08***
risk assessment (deterrence)	−.43*	−.01	−.12	−.00	−.01
CFI	.980				.960
SRMR	.065				.081
comparative fit	$\Delta\chi^2 = 39.46$, $\Delta df = 6$, $p = .000$				

unstandardized regression coefficients
*$p < .05$, **$p < .01$, ***$p < .001$

Application SAT

Results of the multiple-group models on crime versatility for the **young cohort**

- Risk seeking in general is the stronger predictor compared to risk assessment, which only produces some mixed results.
- While risk assessment has a significant effect in the **crime group**, this effect vanishes in all other groups, even when tested in the **deterrence group**, in which it is hypothesised to have the strongest influence.
- Risk seeking, in contrast, remains to have a stable effect in all groups except the **deterrence group**, which is a slight indicator that the hypothesised interaction of the conditional relevance of controls may hold at least for deterrence being of conditional relevance.
- In terms of size, the effects appear to be the strongest in the **crime group**.

Application SAT

Results of the multiple-group models on crime versatility for the **old cohort**

	unconstrained model				constrained model
	crime	self-control	deterrence	no crime	
risk seeking (self-control)	.44**	.26***	.25	.03	.07***
risk assessment (deterrence)	−.48**	−.05	−.38**	−.02	−.03
CFI	.986				.960
SRMR	.069				.089
comparative fit	$\Delta\chi^2 = 47.50$, $\Delta df = 6$, $p = .000$				

unstandardized regression coefficients
*$p < .05$, **$p < .01$, ***$p < .001$

Application SAT

Results of the multiple-group models on crime versatility for the **old cohort**

- The results for the old cohort show the expected effects of the conditional relevance of controls more distinctly.
- In the **crime group**, both risk seeking and risk assessment exert a significant influence on the versatility of self-reported delinquency.
- The effect of risk assessment is no longer significant in the **self-control group** and, as expected, only risk seeking shows a significant effect.
- In contrast, in the **deterrence group**, only risk assessment unfolds a significant influence. Risk seeking is not related to offending in this group.
- In the **no crime group**, both risk seeking and risk assessment show no relationship to the versatility of self-reported delinquency.

Discussion (SAT)

- The analyses show a first attempt to test SAT's hypothesis of the conditional relevance of controls with its assumption of varying effects of controls simultaneously. By using multiple group comparison within a latent variable approach, a systematic investigation of interaction effects under control of measurement bias can be achieved.

- Especially in the old cohort, the results support the assumption of interaction effects within different subsamples and strongly support the hypothesis of the conditional relevance of controls. The magnitude of the effects of self-control (risk seeking) and deterrence (risk assessment) on offending is dependent on the specific combination of personal morality and moral context.

Discussion (SAT)

- <u>Old cohort</u>: In the **self-control group** (low propensity, high exposure) only self-control (risk seeking) affects behaviour, in the **deterrence-group** (high propensity, low exposure) only deterrence (risk assessment) influences offending.

- <u>Young cohort</u>: In the **self-control group** only self-control (risk seeking) has an effect on criminal behaviour, but in the **deterrence-group** both forms of control fail to reach significance.

- <u>Both cohorts</u>: In the **no-crime group** (low propensity, low exposure) neither self-control nor deterrence contributes substantially to the explanation of offending. This result is perfectly in line with the principle of moral correspondence, as this group combines strong personal morality with little peer delinquency (strong moral context).

Discussion (SAT)

- <u>Both cohorts</u>: Both self-control and deterrence have significant crime-reducing effects in the **crime group** (high propensity, high exposure). When both personal morality and the moral context encourage criminal behaviour, SAT posits that controls are irrelevant and crime is very likely. But, our findings indicate that both self-control (risk seeking) and deterrence (risk assessment) affect offending in what we refer to as the crime-group (low in morality and high in peer delinquency).

- <u>General pattern</u>: Effects of controls increase when moral forces become weaker (i.e. become more criminogenic), which is consistent with the idea that moral entities represent the first and controls only the second line of defence against criminal conduct.

Contents

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Schepers, D. & Reinecke, J. (2018). Conditional relevance of controls: A simultaneous test of the influences of self-control and deterrence on criminal behaviour in the context of SAT. *European Journal of Criminology*, 15, 1, 77-92.

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Webpage CURL: `www.uni-bielefeld.de/soz/A2/`

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Measurements TPB

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

Measurements TPB

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 = harmful
1 = profitable / 6 = non-profitable
1 = hazard-free / 6 = risky

Measurements TPB
Attitude (belief strength), 7 Items

"There might be different reasons for shoplifting in a supermarket, 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

Measurements TPB

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.

Measurements TPB
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

Measurements TPB

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

Universität Bielefeld

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Measurements SAT

Delinquency: versatility index (13, respectively 18 offences)

graffiti	shoplifting
scratching	bicycle theft
vandalism	theft (vending machine)
damage (public property)	theft (classmate)
cabin break-in	theft (construction site)
robbery	theft (kiosk)
	receiving or concealing (stolen property)

aggr. assault	theft (bar)
aggr. assault (weapon)	theft (car)
dealing (drugs)	

Measurements SAT

Propensity: Morality

The respondents rate on a five point Likert scale a set of deviant and delinquent behaviour committed by a person the same age, from *not wrong at all* (1) to *very wrong* (5). The scale (16 items), can be divided by type and severity of the included acts. In accordance with SAT (Wikström et al., 2012: 133), the evaluation of deviant behavior will be addressed as *minor moral infractions*, *substance use infractions* and *major moral infractions*. A mean index splits the sample into two groups (*high propensity* and *low propensity*).

Measurements SAT

Exposure: Peer delinquency

The respondent rate on a five point Likert scale from *never* (1) to *very often* (5) how often the respondents think their friends commit 7 different offenses.
A mean index splits the sample into two groups: (*low exposure* and *high exposure*).

Measurements SAT

Self-control

Reverse measurement by applying a scale on **risk seeking**.
Respondents are asked to report whether they strongly agree (1)
to strongly disagree (5) with the following statements:

- I like to test my limits by doing something dangerous
- I like to take a risk for the fun of it
- I think excitement and adventure are more important than
  security.

Measurements SAT

Deterrence

Measurement of **risk assessment** (the risk of getting caught) when committing several different offenses (from very low (1) to very high (5)):

- smashing a street light
- hitting a person and
- breaking into a car