

**Social Inequalities as Causes of the Causes
of Juvenile Delinquency.
Heterogeneities in the Context
of Situational Action Theory**

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DFG Research Center (SFB) “From Heterogeneities to Inequalities”

Whether fat or thin, male or female, young or old – people are different. Alongside their physical features, they also differ in terms of nationality and ethnicity; in their cultural preferences, lifestyles, attitudes, orientations, and philosophies; in their competencies, qualifications, and traits; and in their professions. But how do such heterogeneities lead to social inequalities? What are the social mechanisms that underlie this process? These are the questions pursued by the DFG Research Center (Sonderforschungsbereich (SFB)) “From Heterogeneities to Inequalities” at Bielefeld University, which was approved by the German Research Foundation (DFG) as “SFB 882” on May 25, 2011.

In the social sciences, research on inequality is dispersed across different research fields such as education, the labor market, equality, migration, health, or gender. One goal of the SFB is to integrate these fields, searching for common mechanisms in the emergence of inequality that can be compiled into a typology. More than fifty senior and junior researchers and the Bielefeld University Library are involved in the SFB. Along with sociologists, it brings together scholars from the Bielefeld University faculties of Business Administration and Economics, Educational Science, Health Science, and Law, as well as from the German Institute for Economic Research (DIW) in Berlin and the University of Erlangen-Nuremberg. In addition to carrying out research, the SFB is concerned to nurture new academic talent, and therefore provides doctoral training in its own integrated Research Training Group. A data infrastructure project has also been launched to archive, prepare, and disseminate the data gathered.

Research Project A2 “The Emergence and Development of Deviant and Delinquent Behavior over the Life Course and its Significance for Processes of Social Inequality”

The life-course approach can be used to study the emergence of deviant and delinquent behavior longitudinally from both psychological and sociological perspectives. This project focuses on the relationship between the development of these behaviors and the consolidation of social inequalities and social exclusion. The goal is to identify not only factors that facilitate processes of "dropout" from deviance and delinquency and promote "entry" into normal biographical life courses, but also factors that facilitate a long-term persistence of deviance and delinquency. The research project will apply a cohort sequence design that makes it possible to study the participants' development from preschool age until the fourth decade of life.

Disciplines: Sociology/Psychology

Research topics: Social inequality, longitudinal research, developmental research in psychology, and the sociology of crime

The Author

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Social Inequalities as *Causes of the Causes* of Juvenile Delinquency.

Heterogeneities in the Context of *Situational Action Theory*.

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Abstract

This Working Paper focusses on the relationship of crime and social inequalities by applying Situational Action Theory (Wikström 2006, 2009, Wikström et al. 2012) for the explanation of delinquent behavior of adolescents. Situational Action Theory combines individual and contextual constructs into an integrative explanatory framework. In its basic assumptions, Situational Action Theory states that deviant and delinquent behavior is controlled by moral values. The probability of a criminal act to be committed depends on the criminal tendency (propensity) of a person and their exposure to criminogenic conditions (exposure). Criminal acts are the result of a perception-choice-process, which can be explained by the interaction of a person's criminal propensity and the criminogenic conditions of the environment. Social inequalities are rather causes of criminal behavior but causes of the causes. Social inequalities affect the emergence of criminal propensity and criminal exposure of individuals. This relationship of crime and social inequalities in context of Situational Action Theory will be empirically tested by applying structural equation modeling and testing for indirect effects of several heterogeneity features.

Keywords: juvenile delinquency, Situational Action Theory, heterogeneities, social inequalities

1. Introduction

Heterogeneity features of persons like for example gender, education or social capital, resulting in social inequalities, are academically (e.g. Sampson 2000, Tittle & Meier 1990) and publically well discussed as possible causes of criminal behavior, but the nature of the relationship still remains misunderstood. This Working Paper joins the discussion of the relationship of social inequalities and crime. Its main argument is, that heterogeneities and therefrom resulting social inequalities itself aren't causes of crime, but causes of the causes of criminal behavior. To support this argument, Situational Action Theory (SAT, Wikström 2006, Wikström et al. 2012) will be used to explore the indirect effects of heterogeneities via its impact on the theoretical assumptions of SAT and its indirect effect on the explanation of delinquent behavior. The study "Chances and Risks in the Life Course" will be used to research this relationship empirically.

Following the argument of Diewald and Faist (2011), heterogeneities are understood as the starting point leading to inequalities as the endpoint of a developmental process. While heterogeneities apply to personal differences in a broad general understanding, inequalities refer to inequalities of resources and chances of participation on the one hand, and their perception and assessment on the other hand.

Crime and delinquent behavior can be seen as the endpoint of processes of social inequalities. Different inequalities, in different contexts, are associated with a delinquent and deviant life course. Some studies suggest, that the socioeconomic status of the parents is a risk factor for the development of delinquent behavior (e.g. Lösel & Bender 2003). Moffitt's work (1993) illustrates, that in terms of adolescence-limited antisocial behavior, delinquency in adolescence is the consequence of the "maturity gap" between physical maturity and social status with its social opportunities for participation. What seems to be known is, that the accumulation of social inequalities, also labeled as cumulative disadvantages, accounts for the development of a persistent delinquent life style (e.g. Sampson & Laub 1993). When a delinquent life course develops, several factors influence this development, reflecting either heterogeneities (for example migration status) or inequalities (e.g. discrimination due to migration status). Social inequalities resulting in delinquency are hypothesized to stabilize and intensify themselves in a reciprocal process (Reinecke et al. 2013).

Delinquent behavior can also be regarded as the starting point of the development of social inequalities as delinquent behavior per se is a feature of heterogeneity. It differs between people and has a long-term effect on opportunities and participation in several contexts of life. The labeling

approach (Becker 1963) for example discusses the question of how a delinquent lifestyle stabilizes through the interaction between external influences and attribution processes, thus resulting in social inequalities. The relationship of social inequality and crime is also discussed in the economic approach (Becker 1968), focusing on deterrence effects of the criminal justice system. The theory of social disorganization (Shaw & McKay 1942) concentrates on the role of informal social control and network effects, assuming that poverty weakens such networks of social control. The institutional anomie theory (Messner & Rosenfeld 1994) as well states, that non-economic institutions lower the effectiveness of informal social control. But the different approaches come to inconclusive results and therefore, as Reinecke summarizes, “the general mechanisms of social inequality are still unclear and not specified in theoretical terms” (Reinecke 2015: 3). Future research should not only concentrate on mechanisms stabilizing a delinquent lifestyle with its associated social inequalities, but also on mechanisms supporting turning points and desistance.

Out of the four mechanisms¹ suggested by Diewald and Faist (2011), *exclusion* and *inclusion* are particularly relevant for the development of inequalities in the context of criminal behavior. Following this argument, delinquency is understood as a feature of heterogeneity which impedes access to opportunities for social participation. This process may be influenced by ascriptive features, cultural differentiations, lifestyles, and the failure to develop competencies. Based on individual risk factors on the micro level, they may result in deficits in social and educational development over the life course. Later on, in adolescence, these factors foster criminal behavior. This, in turn, makes formal schooling and education more difficult in early adulthood. Social inequalities may have an influence on individual risk factors in childhood, which in adolescence foster associations with delinquent peers. Social control is hypothesized to moderate this relationship and thus result in different developmental pathways of persistence or respectively desistance of delinquent behavior. Crime as outcome of an accumulation process of social inequalities remains partly misunderstood, but research has made an effort to understand the path-dependent development of criminal careers (DiPrete & Eirich 2006: 291).

¹ (1) exclusion/inclusion (2) opportunity hoarding as variants of social closure (3) hierarchization and (4) exploitation/asymmetric dependence (Diewald & Faist 2011: 11).

2. Theory and Hypotheses

Situational Action Theory (hereafter referred to as SAT) is a recently developed general theory of moral values and moral action that combines both individual and environmental perspectives to explain delinquent behavior. Based on the assumption, that criminal behavior is a moral action, a criminal act is committed, because it is evaluated as an action alternative and therefore chosen as one. The probability that criminal behavior occurs depends on the (criminal) propensity of a person and his or her exposure to criminogenic settings. Social conditions and individual developments over the life course should be analyzed as causes of the causes. Therefore, causes of the causes are the only social conditions to influence personal propensity and their exposure to different criminogenic setting. The central idea of SAT is that criminal behavior is the result of the interaction between *who* individuals are (characteristics and experience) and *where* they are. SAT is designed to overcome several central problems of criminological theorizing: the ambiguous definition of crime, the missing understanding of explanatory mechanisms, the poor integration of the different levels of explanation and the inadequate understanding of development and change.

SAT defines *acts of crime* as “acts that break moral rules of conduct stated in law” (Wikström et al. 2012: 11). By defining crime as a special case of moral rule breaking, SAT offers a generally acceptable definition of crime without being dependent on law regulations or different cultural contexts. A further common lack, not only in criminological theorizing, are the missing mechanistic explanatory frameworks. SAT addresses as main mechanism to influence people’s crime involvement the perception-choice-process to explain how the perception of action alternatives and choice reflects on behavior (see Figure 1).

Figure 1 summarizes the basic assumptions of SAT and illustrates that the causes of action are situational. Social factors affecting people’s crime involvement are best analyzed as causes of the causes of criminal behavior. By analyzing them as causes of the causes, SAT acknowledges the importance of personal factors and processes in life history without mistaking them as causation of delinquency. This strengthens the argument that it is almost impossible to understand the causes of the causes of crime, if the causes of criminal behavior are not systemically understood. SAT proposes, that the causes of the causes are “best analysed in terms of processes of (social and personal) *emergence*, and processes of (social and self) *selection*” (Wikström et al. 2012: 30).

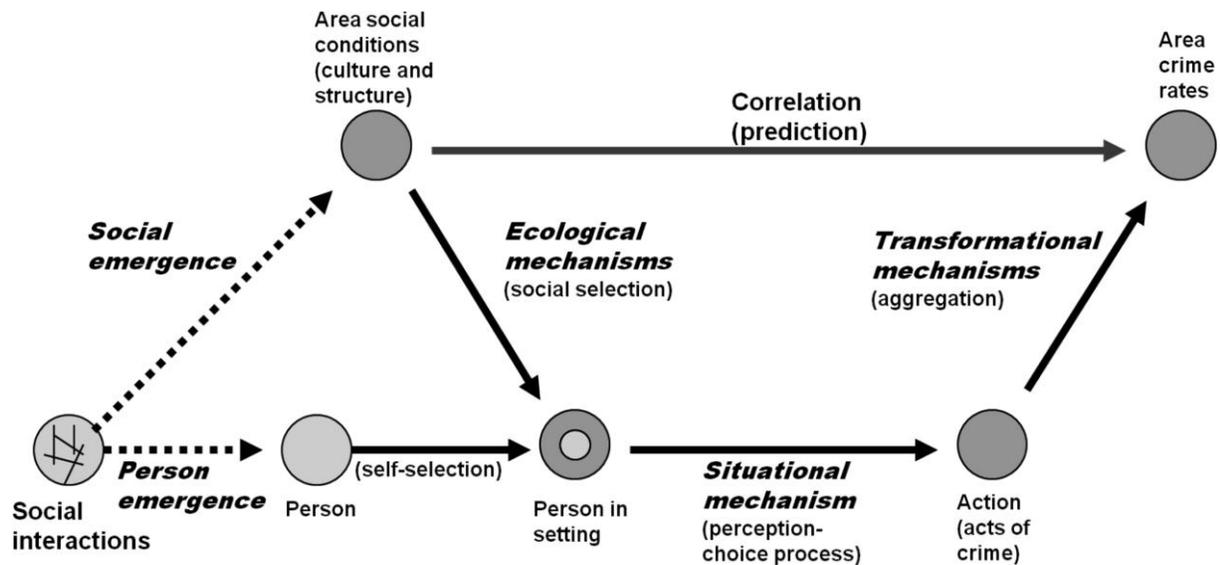


Figure 1: Key causal mechanism in the study of crime causation, as suggested by SAT (Wikström 2011: 85)

SAT connects two classical approaches of criminology: the General Theory of Crime (GTOC, Gottfredson & Hirschi 1990), and the Routine Activity Theory (Cohen & Felson 1979). GTOC is a prominent example of a theory with focus on the role of personal differences and is also referred to as self-control-theory. Routine Activity Theory is an example for an environmental approach. SAT combines the environmental perspective and person-oriented theories and states that ‘acts of crime are an outcome of a perception-choice-process guided by the interaction between a person's crime propensity and his or her exposure to criminogenic settings’ (Wikström 2009: 254). Criminal acts are moral actions and are therefore affected by the ability of an individual to act in accordance to their morality and to exercise self-control. Furthermore, the actions of an individual are influenced by the setting of his/her environment. Persons with low propensity are less likely to commit acts of crimes, even when they are exposed to criminogenic settings. Individuals with a high propensity are more likely to commit crimes, especially when exposed to criminal settings. SAT follows a situational model in which propensity and exposure interact resulting in the stimulation of criminal behavior. Delinquency is the result of an interaction process between propensity and exposure in a situational context. The perception-choice-process is dependent on individual experience and can be regulated by habits or by deliberation in a rational decision making.

SAT as a recently developed general theory of crime generates a broad interest for the empirical examination of the theoretical assumptions, with most studies focusing on different aspects of the theory. By now, four major topics are taken on by the empirical research as key testable hypotheses:

- (1) *Exposure & Propensity*. This line of research focusses on testing the interaction effects of propensity and exposure (in reference to lifestyle) for the explanation of criminal behavior (e.g. Wikström et al. 2012).
- (2) *Deterrence & Propensity*. These studies concentrate on interactional effects of propensity and deterrence to account for the principles of moral correspondence and the conditional role of controls as hypothesized in SAT (e.g. Hirtenlehner 2014).
- (3) *Morality & Self-Control*. These empirical tests focus on the interaction of personal morality and the ability to exercise self-control as second principle of the moral correspondence and the conditional relevance of controls (e.g. Svensson et al. 2010).
- (4) *Causes of the Causes & Selection Effects*. These studies mainly concentrate on mediation effects of informal social controls by propensity (e.g. Pauwels & Svensson 2010).

This Working Paper refers to the latter and examines the question if there are mediation effects of the heterogeneity features *sex*, *school type*, *strain*, *birth country* and *broken home* by propensity and exposure for the explanation of young peoples delinquency as hypothesized in SAT.

3. Study

The study “Chances and Risks in the Life Course” is a longitudinal study that follows a sample of approximate 3,000 pupils and builds the data base for the empirical analyses of this Working Paper. The study is embedded in the project A2 " The Development of Deviant and Delinquent Behavior over the Life Course in the Context of Processes of Social Inequalities"² within the Collaborative Research Center 882 "From Heterogeneities to Inequalities" at the Faculty of Sociology at Bielefeld University.

The school surveys started in 2012 and follow a cohort-sequential design. The study conducts annual surveys in schools in Dortmund and Nuremberg in two age cohorts until 2014. In addition to a comparison of cities, the design allows the comparison of two age cohorts and the analysis of temporal trends. In the city of Dortmund all types of schools are involved in the survey, while the sample in Nuremberg is drawn only from lower middle schools. The sample of the first panel wave consists of students of grade 5 (N = 1,336) and grade 9 (N = 1,421), all together building a sample of 2,757 persons (cf. Meinert & Sünkel 2013). In the second survey in 2013, 1,690 people in grade 6 and 1,308 students of the 10th grade were interviewed (N = 2,977) (cf. Schepers & Uysal 2014). The third wave consists of a total of 3,130³ pupils from both cities and both age cohorts (see Table 1). The data allows comparisons from a cross-sectional as well as from a longitudinal perspective.

Table 1: Sample Size

	2012		2013		2014	
	cohort 1	cohort 2	cohort 1	cohort 2	cohort 1	cohort 2
Dortmund	807	927	1,059	1,046	1,461	787
Nürnberg	529	494	627	245	690	192
total	1,336	1,421	1,686	1,297	2,151	979
	2,757		2,977		3,130	

² Principal Investigators are Prof. Dr. Jost Reinecke (Faculty of Sociology, Bielefeld University) and Prof. Dr. Mark Stemmler (Institute of Psychology, University of Erlangen).

³ This number is preliminary and can change since the data processing is ongoing.

4. Method

4.1. Measurements

The dependent variable of the presented analyses is a summarized index of a set of different types of delinquent behavior. The index itself represents the variability of the respondents delinquency since it is build based on the self-reported 12-month-prevalence rates. The index contains 13 different offenses in the younger cohort and 17 offenses in the older cohort.

To represent the hypothetical assumptions of SAT, the independent constructs are all measured on 5-point Likert-scales and will be analyzed as latent constructs in context of structural equation modeling. *Propensity* is a composite measure of morality and self-control. To account for the moral judgment of the respondents, a scale explicitly developed as part of the PADS+⁴ study for the measurement of morality is used (Wikström et al. 2012). The respondents are asked to rate deviant and delinquent behavior of a person of the same age from *very wrong to do* to *not wrong at all*. The scale consisting of 16 items was translated and applied in a German-speaking country for the first time. To measure self-control, the German translation of the Grasmick, Tittle, Bursik and Arneklev (1993) self-control scale is used (Eifler & Seipel 2001). The scale originally consists of six dimensions, of which the dimension *risk seeking* is used for these analyses.

Exposure refers to environmental influences affecting criminal behavior of young people. To account for these environmental factors, a measure of unsupervised activities in the respondents leisure time is applied. The scale, similar to the measurement of morality, is a translated scale from the PADS+ study, which is designed and developed to account for the theoretical construct of exposure in the sense of the theory. The respondents give information of how often a week they spend their leisure time in unsupervised activities. Peer delinquency, as further element of risk environment is covered by a scale where the respondents estimate how often their friends commit various offenses. The scale is designed in accordance to the scale *peer crime involvement* of the PADS+ study (Wikström et al. 2012), however, the specific offenses of this scale are taken from the CRIMOC⁵ study (Boers & Reinecke 2007).

⁴ PADS+ stands for the *Peterborough Adolescent and Young Adult Development Study*. A study of adolescents and young adults in Peterborough, UK, ongoing for 10 years and designed to test SAT empirically. For more information go to <http://www.pads.ac.uk/>.

⁵ CRIMOC stands for *Crime in the modern city* and is a longitudinal study of juvenile delinquency in Munster and Duisburg, funded by the German Research Foundation (Deutsche Forschungsgemeinschaft). For more information go to <http://www.uni-bielefeld.de/soz/krimstadt/>.

To account for different aspects of heterogeneities and social inequalities, a set of additional variables is used. *Sex* contributes to the model, because of the well documented findings of the gender gap in offending. The *school type* is used to account for the effect of chances in education and therefore their subsequent chances at the labor market. To control for migration background, a variable on the *birth country* of the respondent is included in the analyses. A measurement of *strain* is used to identify subjective economic disadvantage. To account for family disadvantage a measurement for *broken home* is included, assuming that a separated family somehow implicates a loss in economic and social resources.

For a deeper understanding of both the theoretical constructs of SAT as well as the used ascriptive variables, information on their theoretical background and frequency distributions see Meinert et al. 2014.

4.2. Analysis

The relationship of heterogeneity features and the theoretical assumptions of the SAT are empirically tested by the estimation of various models, which are located within the structural equation approach (e.g. Reinecke 2014). Structural equation models explicitly distinguish between measured (so-called manifest) variables and unmeasured (so-called latent) variables. The latter ones are labeled as dimensions or factors. The relationships in focus (correlations) and effect sizes (regression coefficients) are calculated on the latent level within the framework of a structural model. At the same time, the relation between latent and manifest variables in the measurement model are estimated. The differentiation between structural and measurement model allows the simultaneous examination of the postulated assumptions, as well as an examination of the measurement quality (construct validity) of the manifest variables used in each case. The models are estimated with the statistical software Mplus (version 7.1) (Muthen & Muthen 1998-2014).

Due to the nature of rare crime events, the dependent variable, the delinquency index, has a left-skewed distribution. This will be accounted for in the analyses by using a robust maximum likelihood estimator (mlr). This estimator is robust to non-normally distributed data since it corrects the standard errors of the parameter estimates in the particular model⁶ (for a comparison of the performance of mlr vs. the ml-estimator see Hox et al. 2010). The integrative models are determined by analyzing simultaneously the influences of the hypothesized dimensions of SAT and a set of

⁶ The dependent variable is treated with a continuous distribution assumption and not as a count variable.

heterogeneity features for the explanation of delinquent behavior. To keep the complexity of the statistical models within limits, the indirect effects are estimated separately.

4.3. Results

4.3.1. Descriptive Results

The results presented in this Working Paper are based on the cross-sectional data of the second time point of data collection. In 2013, the students were in the 6th and 10th grades. The analyses are estimated separately for each age cohort.

Table 2: Composition of the sample

		6 th grade	10 th grade
N		1,690	1,308
sex (%)	m	49.9	46.8
	f	50.1	53.2
age (mean)		11.9	16.2
foreign birth country (%)		9.5	9.5
offender (%)		20.3	25.9

Table 2 summarizes the basic descriptive results of the data set. The sample size of the younger cohort contains 1,690 students with a balanced gender composition and a mean age of 12 years. The data set for the older cohort consists of 1,308 students with a slight overrepresentation of females and a mean age of 16 years. When applying *birth country* as measure of migration background, there are approximate 9.5 % of the students of the sample born in a foreign country. 28 % of the students of the younger cohort and 33 % of the older cohort report, that they don't live with both parents together and therefore are accounted for *broken home* in the following analyses. Using the subjective indicator for economic well-being *strain*, approximate 6 % of the pupils of the 6th grade report that they get along poor to very poor with their money, with an additional 15 % reporting that they manage their money mediocre. Applying this indicator for the students from the 10th grade, approximate 12 % report poor to very poor handling of money and an additional 23 % rate their economic situation as mediocre. The delinquency index on which the following analyses are based, shows an overall of 20 % of respondents from the 6th grade who report to have committed at least

one of the offenses in the last 12 months. In the 10th grade 26 % of respondents report to have committed at least one of these crimes.

Due to the stratification of the Nuremberg subsample on middle schools, there is a (desired) over dispersion of secondary school students (see Table 3). They are over-represented with distributions of 40 % to 50 %, while the comprehensive schools are under-represented in this sample (especially in the older cohort).

Table 3: Distribution of school type (in %)

	6 th grade	10 th grade
lower track school	46.8 (N=791)	40.3 (N=527)
secondary modern school	13.7 (N=231)	24.8 (N=325)
grammar school	26.5 (N=448)	30.9 (N=404)
comprehensive school	13.0 (N=220)	4.0 (N=52)

The overall morality of the students with means of 3.9 (6th grade) and 3.4 (10th grade) is in general quite high but also indicates some decrease over time. This is in accordance to the results from the PADS+ study: „The overall morality scale shows, on average, a general decrease between ages 13 to 16 followed by a stabilization in young people’s judgment of the wrongfulness of the included acts” (Wikström et al. 2012: 133). The morality scale consists of three dimensions building three factors used for the multivariate analyses. The factor *minor moral infractions* contains items related to deviant behavior mostly in the context school and has a bivariate correlation of .338 (6th grade) and .225 (10th grade) with self-reported delinquency. The factor *substance use infractions* covers the judgment of behavior relating to consumption of alcohol and drugs and correlates significantly with values of .314 (6th grade) and .366 (10th grade) with the index. The third factor *major moral infraction* comprises of items that capture the judgment of delinquent behavior and has a bivariate correlation of .268 (6th grade) and .277 (10th grade) with the index of self-reported delinquency. The dimension *risk seeking* as measure of self control has a mean of 2.3 and a bivariate correlation of -.450 for students of the 6th

grade. Respondents of the 10th grade score an overall of 2.6 on this dimension with a correlation of -.394 with delinquency. The measurements accounting for the risk environment are the factor *unsupervised activities* with bivariate correlations of .169 (6th grade) and .258 (19th grade) and the factor *delinquent peers*, which strongly correlates with .543 (6th grade) and .516 (10th grade) with self-reported delinquency.

4.3.2. Model Results

To create an overall impression of the relationship of heterogeneities to the theoretical assumptions of SAT and their effects on delinquent behavior, several models are estimated for each age cohort.

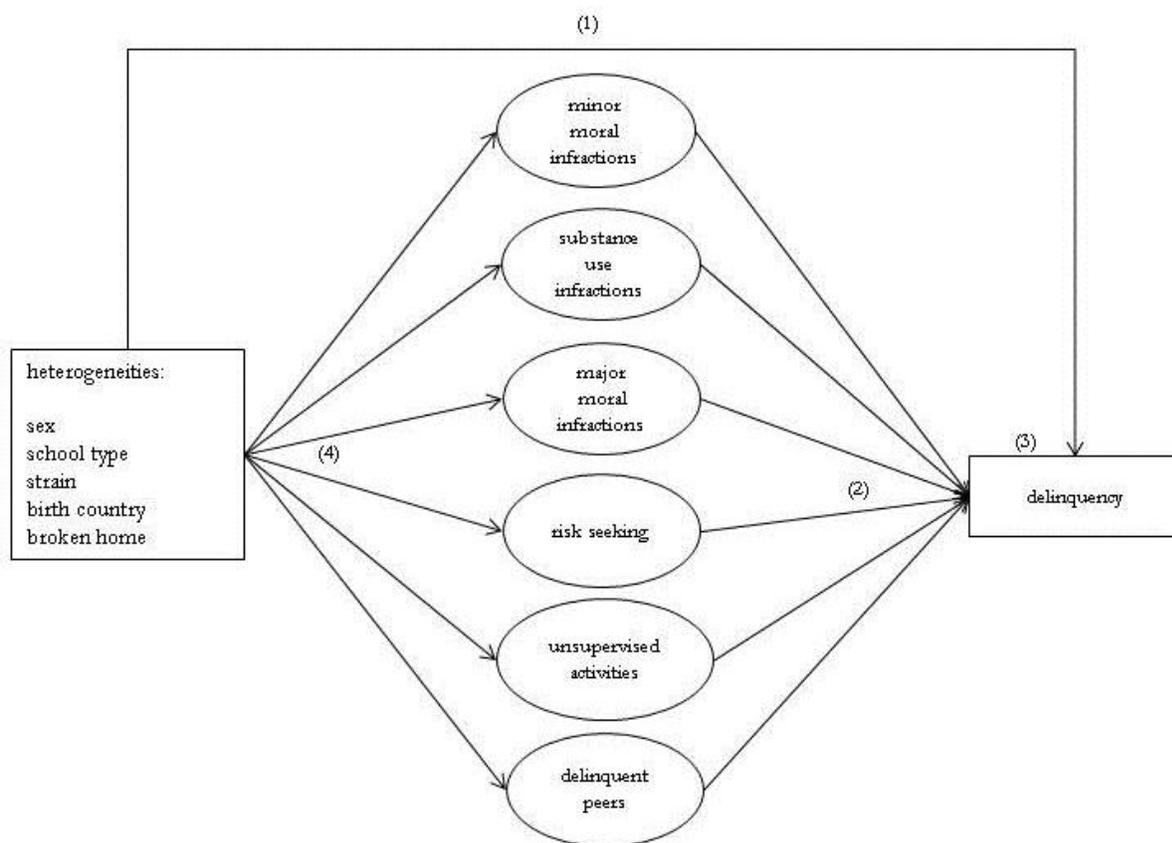


Figure 2: Summary of the models

Figure 2 summarizes graphically within the framework of structural equation modeling the general idea of the separate estimated models. The first model only accounts for the heterogeneity features and their correlation with delinquency (1), the second model focusses on SAT as explanation for delinquent behavior (2) and the third model integrates both previous models into one integrative model to control for the effect sizes (3). In a second step, the assumed indirect relationships are

explored by estimating the mediating effects of heterogeneities via the constructs of propensity and exposure for the explanation of juvenile delinquency (4).

Table 4: Model results (6th grade)

	Model I	Model II	Modell III
sex	-.113 (.000)		-.032 (.148)
school type	-.043 (.100)		-.032 (.163)
strain	-.069 (.007)		-.013 (.645)
birth country	.106 (.000)		.052 (.123)
broken home	.098 (.000)		.069 (.008)
minor moral infractions		.097 (.059)	.098 (.058)
substance use infractions		.304 (.342)	.279 (.363)
major moral infractions		-.205 (.486)	-.206 (.475)
risk seeking		.295 (.000)	.301 (.000)
unsupervised activities		.057 (.197)	.043 (.335)
delinquent peers		.218 (.000)	.199 (.000)
RMSEA	.000	.037	.039
CFI	1.000	.963	.941
TLI	1.000	.953	.931
SRMR	.000	.038	.055
R ²	.045	.300	.282

standardized coefficients, two-tailed p-value in brackets

Table 4 displays the results for the 6th grade. Model I shows that the chosen heterogeneity features significant correlate with delinquent behavior. There is a negative effect of gender, meaning that boys have higher delinquency rates. The model shows a rather weak relation of *school type* and delinquency, indicating, that pupils who are in a lower level education commit more crimes. There is also a significant negative influence of *strain*, meaning, that students who manage their money poorly commit more offenses. In the younger cohort, there is also a significant effect of migration background (respectively birth country of the respondents) and crime, indicating that migrants commit more offenses than students born in Germany. The correlation of *broken home* and the delinquency index suggests, that pupils whose parents are separated report more offenses. Modell II accounts for the theoretical assumptions of SAT, assuming that low personal morality and low self

control (respectively high risk seeking) as constructs of propensity have a positive effect on criminal behavior. Also *unsupervised activities* and association with *delinquent peers* as measurements of exposure are assumed to have a positive influence on delinquency. The overall model II shows a good fit, but not all factors significantly correlate with self-reported criminal behavior. But in general, SAT promises a rather good theoretical model for the explanation of delinquent behavior (for a more detailed discussion of a similar model applied on the same data see Schepers & Reinecke 2015). The third model integrates the previous separate estimated analyses for heterogeneities and SAT into one general model. The most outstanding result of this estimation is that the heterogeneity features (except for *broken home*) become insignificant. This result is in accordance with the theoretical assumptions, that features of heterogeneities itself are not causes of crime but causes of the causes.

Table 5: Model results (10th grade)

	Model I	Model II	Modell III
sex	-.237 (.000)		-.116 (.000)
school type	.007 (.801)		-.003 (.928)
strain	-.139 (.000)		-.014 (.670)
birth country	.000 (.997)		.005 (.852)
broken home	.098 (.001)		.039 (.170)
minor moral infractions		-.028 (.499)	.014 (.742)
substance use infractions		.195 (.000)	.170 (.001)
major moral infractions		.020 (.665)	.019 (.695)
risk seeking		.231 (.000)	.213 (.000)
unsupervised activities		.041 (.240)	.047 (.200)
delinquent peers		.385 (.000)	.370 (.000)
RMSEA	.000	.050	.056
CFI	1.000	.930	.877
TLI	1.000	.912	.855
SRMR	.000	.051	.069
R ²	.081	.363	.337

standardized coefficients, two-tailed p-value in brackets

The same three models have been estimated for the students of the older age cohort (see Table 5). In general, the result are very similar to the previous presented results for the younger cohort. In model

I, there is a significant effect for the variables *sex*, *strain* and *broken home* for the explanation of delinquency. In contrast to the younger cohort, there is no correlation between *birth country* and *school type* and the index of self-reported delinquency. Model II, again, represents the hypotheses of SAT. The overall model has an acceptable data fit and shows, comparable to the young cohort, moderate support for the assumptions of SAT. Model III, integrating the previous described models, reveals that when controlled for the theoretical factors of SAT, the heterogeneity features do not have any longer a significant effect for the explanation of juveniles delinquency. In contrast to the results for the 6th grade, the gender effect remains significant but the effect of *broken home* vanishes. Controlled for the theoretical assumptions of the SAT, in both age cohorts, the indicators assumed to lead to inequalities have no longer a direct effect for the explanation of self-reported delinquent behavior.

More than the simultaneously estimated effects of features of heterogeneity, assumptions of SAT and their influence on the explanation of delinquency, the indirect effects are of primary interest. Therefore several models are estimated to create a first impression of such a relationship: For each age cohort, referring to the previous presented results, the significant factors and variables are selected to test for indirect effects. Each model is based on one heterogeneity feature and tests the indirect effects via the significant factors of the SAT for the explanation of self-reported delinquency.

Table 6: Indirect effects on delinquency (6th grade)

		total	indirect	direct
sex	minor moral infractions	-.112 (.000)	-.018 (.040)	-.093 (.000)
	risk seeking	-.110 (.000)	-.068 (.000)	-.042 (.069)
	delinquent peers	-.110 (.000)	-.046 (.000)	-.064 (.007)
strain	minor moral infractions	-.079 (.015)	-.051 (.000)	-.028 (.399)
	risk seeking	-.084 (.009)	-.036 (.011)	-.048 (.094)
	delinquent peers	-.082 (.011)	-.032 (.013)	-.050 (.126)
broken home	minor moral infractions	.106 (.000)	.030 (.002)	.077 (.005)
	risk seeking	.105 (.000)	.025 (.039)	.079 (.002)
	delinquent peers	.107 (.000)	.020 (.074)	.088 (.001)

standardized coefficients, two-tailed p-value in brackets

The results for the younger age cohort are displayed in Table 6. What shows quite distinct is that there are significant total effects for all estimations. When divided into indirect and direct effects, the

results show, that in general, there are significant indirect effects for all analyses (except only a weak indirect effect for the mediated relationship of *broken home* via the delinquent peers). In accordance to the theoretical assumptions, the direct effects in all cases get weakened or disappear. Especially the relationship of *strain* and crime is fully mediated by the factors *minor moral infractions*, *risk seeking* and *delinquent peers* as hypothesized in SAT.

Table 7: Indirect effects on delinquency (10th grade)

		total	indirect	direct
sex	substance use infractions	-.211 (.000)	-.032 (.004)	-.189 (.000)
	risk seeking	-.224 (.000)	-.070 (.000)	-.154 (.000)
	delinquent peers	-.225 (.000)	-.086 (.000)	-.139 (.000)
strain	substance use infractions	-.137 (.000)	-.091 (.000)	-.046 (.210)
	risk seeking	-.142 (.000)	-.089 (.000)	-.053 (.111)
	delinquent peers	-.144 (.000)	-.070 (.001)	-.074 (.017)
broken home	substance use infractions	.115 (.000)	.083 (.000)	.033 (.318)
	risk seeking	.117 (.000)	.047 (.000)	.070 (.021)
	delinquent peers	.118 (.000)	.036 (.032)	.082 (.008)

standardized coefficients, two-tailed p-value in brackets

The differentiation between total, indirect and direct effects for the older cohort is displayed in Table 7. Even more distinct than in the 6th grade the results show that there are significant indirect effects of all the constructs for the explanation of self-reported delinquency. The relationship of heterogeneity features therefore is always mediated by the factors of the SAT. Comparable to the younger cohort, the results are most obvious for the relationship of *strain*, mediated by SAT and crime, but also found for the results of *broken home*. Only the gender effect remains significant for direct as well as for indirect influences.

5. Conclusion

This Working Paper has the purpose to join the discussion about the role of social inequalities for crime causation. Assuming that over the life course, heterogeneities can develop into social inequalities, which relate to delinquent behavior, which again may reinforce inequalities, Situational Action Theory is used to provide an explanation of which processes may be activated to explain the relationship of social inequalities and crime.

As shown in the previous sections, there is a correlation of different heterogeneity features which are hypothesized to possibly develop into solidified social inequalities over the life course, and delinquency. But as argued with the SAT, this relationship is assumed to be indirect since heterogeneity characteristics and therefrom social inequalities are not causes of crime causation but causes of the causes. As causes of the causes they affect propensity and exposure of a person, with the interaction of propensity and exposure as main mechanism for the explanation of delinquency. In a first attempt, this indirect relationship is empirically explored by estimating total, direct and indirect effects by applying structural equation modeling. The results indicate that the relationship of heterogeneity features and crime indeed is (partly) mediated by the theoretical assumptions of the SAT. Particularly evident are the results for the relationship of *strain* and crime. There is a significant correlation of them both, but when controlled for multivariate effects and especially the indirect relationship the direct interrelation disappears. Even when not that distinct as for *strain* and crime, the results presented in this Working Paper all indicate, that the theoretical assumptions that there is no direct but an indirect relationship, mediated by the constructs of the SAT are evident.

Although the results presented in this Working Paper make a strong case for the conception of heterogeneities as causes of the causes of crime, the empirical examination may be subject to some restrictions. So far, the models have been estimated separately, therefore the effect sizes can not be compared between the different models. Based on the available data structure it can not be examined whether the results are specific to the sample population or whether the findings may be reproducible with other data sets and therefore be generalizable. The choice of variables may, as always, be up to discussion but as in empirical analyses the case, the selection depends on the availability of measurements. Nonetheless, to illustrate the topic and research question it is assumed that the utilized proxy variables demonstrate the purpose. The models so far do not include interaction effects, but they should be considered in future analyses (see model proposal in Reinecke & Schepers 2015).

Regardless, further research on the mechanisms of crime causation is needed. SAT seems to be a promising general theory for the explanation of delinquent behavior. The combination of environmental and personality aspects with the perception-choice-process as basic mechanism offers a more comprehensive conception of crime causation than theoretical approaches which consider environmental or personal factors independently. The systematic separation of distal and proximal causes can also advance the empirical investigation of causal relationships. By introducing the construct of causes of the causes, SAT also accounts for the role of heterogeneities and social inequalities and its effects on crime causation.

Cross-sectional data only can give a first impression of the hypothesized relationships, to account for causal effects in the life course it is necessary to base the analyses on longitudinal data. The project A2 soon provides such panel data and further research will be taken on.

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