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A theoretical and empirical review of its  
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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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# **The development of morality: A theoretical and empirical review of its influences and change in adolescence**

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## **Abstract**

Morality as a key construct for the explanation of criminal behaviour has a long tradition in criminology, but research in moral development in childhood and adolescence is mainly based in psychological explanations. This article gives a theoretical and empirical outline of the development of morality, especially for the explanation of crime involvement. Situational Action Theory, introduced by Wikström and colleagues (SAT; e.g. Wikström et al. 2012), is a promising new developed general theory of crime. SAT combines individual and contextual constructs into an integrative explanatory framework. With crime propensity mainly based on moral judgement, in its basic assumption, SAT proposes that the interaction of propensity and exposure determines delinquency. The probability of a criminal act to be committed depends on the criminal tendency (propensity) of a person in interaction with their exposure to criminogenic settings (exposure). To analyse the development of moral judgement during adolescence, the German panel study ‘Chances and Risks in the Life Course’ will be used. The study, embedded within the project ‘The Development of Deviant and Delinquent Behavior over the Life Course and its Significance for Processes of Social Inequality’ of the CRC 882 ‘From Heterogeneities to Inequalities’ uses a cohort sequential design and was first conducted in 2012, with yearly follow up measurements. The sample consists of three interviewing time points of two age cohorts in the German cities of Dortmund (North-Rhine Westphalia) and Nuremberg (Bavaria). Moral development and its influences will be examined by applying latent growth curve models. The strongest effect on the development of moral judgement appears to be the moral emotion shame with decreasing influences of family and increasing influences of peers during adolescence.

**Keywords:** moral development, Situational Action Theory, juvenile delinquency

## **Introduction**

The concept of moral and morality is mainly based in sociological and psychological explanations of behaviour and socialization; and the formation and development of morality as a research topic has a large history and tradition in sociological (e.g. Durkheim, 1893; 1897; Parsons, 1937) and psychological research (e.g. Piaget, 1932; Kohlberg, 1964). Early on, Durkheim (1893; 1897) proposes, that “morality involves a collective sense of solidarity, experienced by individuals as feelings of attachments to and respect for the moral authority embedded in society” (Turiel, 1998: 870).

The influence of morality as explanation of criminal behavior has been of interest to criminology for decades, and according to Hirschi (1969), most of the existing criminological theories consider morality as part of the explanation of criminal behaviour. Morality is understood as the foundation of criminal propensity as an individual-level construct (cf. Felson, 1993). Parsons defined criminal propensity as the absence of an “internal moral sense” (Parsons, 1937: 40). However, in a contemporary perspective, Situational Action Theory (SAT; Wikström et al., 2012), recently brought the concept of morality back into research focus by addressing morality as the central aspect of someone’s individual crime propensity. The interaction of someone’s propensity with environmental cues (exposure) triggers a perception-choice-process, which determines the action and by that crime involvement. Since the theory’s explanatory focus is on situational aspects of criminal behavior, SAT could gain from social psychological insights for a longitudinal perspective on crime development and changes in criminal behaviour. By considering the groundbreaking theoretical framework of Piaget (1932) and Kohlberg (1964) and the adjoining empirical research on moral development, SAT can be expanded into a broader developmental criminological approach. This article aims to research the basic conception of morality in context of SAT as predictor of crime causation with data from a German longitudinal student sample by taking empirical evidence of social psychological research on the development of morality during adolescence into account.

## **Moral development**

Morality is mostly described as a concept of three components. The cognitive aspect of morality reflects the development of moral judgement and it is mainly based in developmental psychology. It conceptualizes the internalization of social norms and its research is based on the work of Kohlberg and Piaget. The affective aspect of moral is based within psychoanalysis with its most famous scholar Sigmund Freud. It focusses on the development of moral emotions like shame and guilt. Behavioural research on morality is anchored in learning theories and explains the development of moral behaviour as a suppression of needs. In general, an interrelation of all three aspects of morality must be assumed.

The work of Lawrence Kohlberg marks the start of a new paradigm for the understanding of moral development. Before his groundbreaking publications on the stepwise development, in accordance with psychoanalytical, learning theoretical, and behavioristic assumptions “morality was assumed to be a function of societal control over the individual’s interests, needs, or impulses” (Turiel, 1998: 866). In his early work, Kohlberg criticizes this behavioristic and psychoanalytical conception of morality (Kohlberg, 1963; 1964), setting the argument for empirical research on moral development (Kohlberg, 1970; 1971), and presenting a new approach of describing the development of morality by modifying and elaborating Piaget’s (1932) early models of the stepwise development of morality (Kohlberg, 1963; 1969). Because of humans’ orientation towards social relations, children generate a moral judgement based on emotions. Emotions like sympathy and empathy, love and attachment build a commitment and bond to others.<sup>1</sup> Kohlberg proposes, as a reformulation of Piaget’s progression from heteronomy to autonomy, a developmental model in six stages with three levels. In the “preconventional” level (stages 1 and 2), judgement is primarily based on a heteronomous orientation towards obedience and the avoidance of punishment by authorities. The “conventional” level, containing stages 3 and 4, is characterized by acceptance of social relations and judgements are based on role obligations, stereotypical perceptions of good and the legitimation of authority and social order. The understanding of the fundamental rights to liberty and life, the principle of human rights and the recognition of the universal principle of rules and regulation build the “postconventional” level (stages 5 and 6).

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<sup>1</sup> This argument stands in contrast to the assumption that due to conflict with natural or biological dispositions morality works as a boundary to society.

Many of the issues put forth in the first part of the 20<sup>th</sup> century had a major influence on later research on moral development. Kohlberg's theory dominated empirical research at least for two decades and experienced positive as well as negative reception (an overview is given by Mogdil & Mogdil, 1986). But first ideas for social and environmental influences on the development on morality are already drawn by Piaget. The infantine moral is influenced by parenting and family socialization. Their regulations have absolute authority. During adolescence, an autonomous morality is build which is based on reciprocity and equality and is negotiated and gained in peer relationships. Not only this assumptions, but also empirical research leads to the importance of social bonds for the development of morality. The relationship to the parents due to their authority in early socialization is formative for the upbringing of morality through interactions in which needs and emotions are either addressed or not (cf. Hoffman, 2000). Another important aspect in moral formation is the opportunity of negotiating and discussing rules and regulations, as well as the way conflicts are resolved. By that, explicit and implicit socialization, cognition and emotion form the moral climate of family relations. "Poor childhood environment" and "ineffective child rearing techniques" are blamed for the development of a low-moral-commitment personality (cf. Hannon et al., 2001). Hart (1998) analyzes longitudinal data from Kohlberg's study of moral development in boys and men and found that "paternal identification and involvement measured during adolescence are related to moral judgment during childhood, adolescence, and adulthood" (Hart, 1998: 258). Besides Piaget's hypotheses, the importance of peer relationships for the development of morality is well documented (cf. Krappmann, 1994). In contrast to authority relations, peer relations offer a different environment for the negotiation of norms and opt for new experiences of social reciprocity. Warr (2002) describes the (negative) peer influence as creating a "moral universe" and hypothesizes that peers exempt individuals from the moral standard that regulates behaviour.

The assumption of an increasing morality during adolescence may be explained by maturation, by that morality is understood as a marker for adulthood. Research shows, that harmful and mean behavior is viewed as immature (Galambos et al., 2003), that emotional maturity is set as a marker for adulthood (Mayseless & Scharf, 2003), and that the transition to adulthood indicates less self-orientation (Arnett, 2003). Despite most empirical evidence being consistent with the theoretical assumption of increasing moral judgement, a lack in research remains since most studies involving adolescents are not designed longitudinal (cf. Eisenberg et al., 2005).

Research in moral development is often associated with the moral emotions of shame and guilt. Guilt and shame are mostly used synonymously and refer to a regret over wrongdoings and involve a sense of responsibility for the own behaviour. Even though there is some discussion in when shame and guilt emerge, scholars agree that it happens early on in life. Research shows that around the age of three, children engage in reparative behaviour and show empathy towards victims (cf. Eisenberg, 2000: 678ff.). With data from the Dunedin Study, emotional lability and negative emotionality at age three proved as a predictor for aggressive and antisocial behaviour in adolescence (Caspi et al., 1995) and criminality (Henry et al., 1996).

Another often researched aspect are gender differences in the development of moral judgement. Gilligan (1982) presents a theory for the findings of a different moral development of males and females by declaring female morality a morality of care and male morality a morality of justice. Research seems to agree, for example Eisenberg, Fabes and Shea (1989) observe that girls ages 11 and 12 “are more other-oriented in their prosocial moral reasoning than are boys” (Eisenberg et al., 1989: 139). Similarly, Gibbs and colleagues report, that moral judgement of females relies on “empathic role-taking” (Gibbs et al., 1984: 1042). A meta analysis by Cohn (1991) finds, that “sex differences in personality development can be attributed to one of three factors: sex differences in cognitive abilities (in particular, verbal skills), sex differences in biological maturation, or sex differences in socialization experiences” (Cohn, 1991: 262). Research indicates that there may exist two moral orientations with one of each preferred by each gender. The moral judgement of males is guided by abstract moral principles and the female morality is contextual and oriented towards others well-being (cf. Cohn, 1991: 263). Additionally, Mears et al. (1998) explain gender differences by their association with delinquent peers, concluding that males are substantially more likely to have delinquent peers and are more strongly affected by them. In contrast, female moral judgement seems to reduce, partly even eliminate, the impact of delinquent peers (cf. Mears et al., 1998: 263). Analyzes with the same data presented later in this article on a measurement of pro-social values, unfold gender differences too. For pupils with the mean age of 11, highly significant gender differences are found with females general scoring higher. For students with a mean age of 15, the significant differences remain with females scoring higher, but show adjusted scores on items where the judgement of the wrongfulness of the included acts doesn't involve hurting other persons (cf. Schepers, 2016: 194).

## **Situational Action Theory**

SAT is a new developed general theory of crime (e.g. Wikström et al., 2012) which combines individual and environmental perspectives into an integrative framework by explaining crime as moral action. According to SAT, acts of crime are defined as “acts that break moral rules of conduct stated in law” (Wikström et al., 2012: 11). The generalized explanation of crime as moral action “avoids the problem that some action are defined as crimes at some times, or in some places, but not at other times, or in other places” (Wikström et al., 2012: 13). Acts of crime are the result of a perception-choice process, that as causal process, links criminal behaviour to the interaction of someone’s propensity and the exposure to criminogenic settings. Crime propensity depends on the extent of which a person’s morality and ability to exercise self-control encourages breaking moral rules, and the criminogenic exposure of which extent someone attends settings with criminogenic features. The fundament of someone’s propensity is their morality, as a combination of rule guiding principles and the attached moral emotions like guilt and shame. Individuals vary in their understanding of the importance of moral, legal, and action-guiding rules. The probability that a person receives a particular offense as action alternative depends on the strength of their action-guiding morality, indicated by shame and guilt as attached emotions. “The strength of a person’s particular moral rules may be seen as reflected in the moral emotions he or she attaches to breaching a particular moral rule” (Wikström et al., 2012: 14). But the disposition to delinquent behavior is not sufficient to enable delinquency itself, instead must be activated in a situation. Propensity therefore takes effect in interaction with criminogenic features and external motivators from environmental settings (exposure). SAT stretches the importance of the situation by arguing that the perception-choice process as causal mechanism is initiated by the interaction of propensity and exposure. This is determined by two kind of processes, either habitual or rational deliberation. Habitual action thereby is in response to environmental cues and is oriented towards past experiences, while rational deliberation includes weighting of action alternatives and anticipates the future. SAT introduces the principal of conditional relevance of controls, meaning that controls only are relevant when deliberation over action is effective and when there is a conflict between personal moral rules and the moral norms of the setting. If the personal morality discourages criminal behaviour, but the moral norms of the setting encourage it, the behav-

ioral outcome is dependent on internal controls like self-control.<sup>2</sup> If the own moral regulations encourage breaching moral rules of conduct but the exposure discourages such behaviour, the action depends on external controls like deterrence. If such inconsistencies of propensity and exposure aren't in action, with propensity and exposure both being encouraging, criminal behaviour is likely; and both propensity and exposure being discouraging criminal behavior is unlikely. But in both cases the choice of action is independent of controls. By describing controls as conditional, SAT distinguishes that "moral rules influence the perception of action alternatives, while controls (may) play a role in the process of choice" (Wikström et al., 2015: 27). Despite SAT focusing on the situation as analytical strategy in crime causation, as well as the importance of understanding the causes of crime as situational, it acknowledges a person's life history and social factors as causes of the causes of crime. Causes of the causes of crime are addressed by the conception of social and personal emergence, and social and self selection. With selection referring to selection into criminogenic settings, the factor of emergence refers to personal characteristics and their development throughout life history. Without taking them into the situational and explanatory focus, SAT admits that the question of how different propensities develop is of main criminological interest. Even so the acquirement of diverging crime propensities is (so far) not of SAT main research interest, the fact that people have different crime propensities is the starting point of the analyses of environmental influences in crime causation. Wikström and Sampson argue that central to the analysis on moral development are key social institutions like family, school, and peers (cf. Wikström & Sampson, 2003: 131ff).

SAT generates a broad enquiry of empirical research on the main theoretical assumptions, especially in Europe. The body of research established so far, centers mainly around the interaction of exposure and propensity, propensity and deterrence effects, the interaction of morality and self control, and selection effects in context of causes of the causes as key testable hypotheses. Neglecting research without a focus on morality, only an extract of the state of research on the theoretical testing of the theory will be illustrated here. Antonaccio and Tittle (2008) found that low morality, under control of other individual characteristics, is a general predictor of deviance. Schoepfer and Piquero (2006) state that high morality can act as a buffer against other criminogenic risk factors like low self-control and a lack of formal sanctions. Brought to test SAT on a

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<sup>2</sup> Self-control in context of SAT refers to the ability to act in accordance to the own moral rules even when the moral rules of the setting are conflicting (cf. Wikström et al., 2012: 26).

sample of street youth for the explanation of drug use, morality shows the largest impact on the level of hard drug use and remains the only consistent effect after introducing control variables and interaction terms (Gallupe & Baron, 2010: 11). With SAT predicting that changes in propensity (and exposure) lead to changes in crime involvement, Wikström (2009) tested this change by change assumption and found support for this hypothesis. However, exposure has the better predictive power, but this is still in line with SAT since people with a higher propensity are more affected by exposure than those with lower propensity (cf. Wikström, 2009: 263). Scholars also found support for SAT assumption, “that individuals’ (law relevant) morality is more fundamental to their crime involvement than their ability to exercise self-control” (Wikström & Svensson, 2010: 395) with the outcome that adolescents with a strong morality don’t engage in criminal behaviour regardless of their level of self-control. Only for students with low morality the ability to exercise self-control is an important predictor of their crime involvement. Research also shows that “high pro-social values go together with stronger family and school bonds” (Wikström & Butterworth, 2006: 111) and that youth with a strong morality offend significantly less than those with anti-social values. By analyzing longitudinal data, Wikström and colleagues resume, that “on average, young people’s crime propensity generally increased between ages 13 and 15 and then levelled out.” (Wikström et al., 2012: 139). This increase is due to a decreasing moral judgement with the level of self-control remaining stable. A comparative test in three European countries verifies the findings of a low level of morality being correlated with higher levels of offending, and that the relationship of offending and self-control is dependent on the level of morality (cf. Svensson et al., 2010: 739). The aspect of the conditional relevance of control is another often researched hypothesis and it could be shown that controls indeed only take effect on criminal behavior when the personal morality is low (cf. Mesko et al., 2015: 312). Pauwels (2015) observes that criminogenic exposure is especially effective in people with a high crime propensity, and a lack of self-control leads to crime involvement when someone has a low morality. Analyses with with the same data as presented later on suggest, that the dimensions of morality have different effects in diverging stages of adolescence. The relation between morality and crime for older respondents seems mainly determined by the judgement of substance use infraction, while in the younger cohort it is determined by the judgement of minor moral infractions (cf. Schepers & Reinecke, 2015: 200).

## Hypotheses

The following research questions are derived from the preceding overview of SAT and empirical research on moral development. With most of the theoretical approaches on moral development assuming that children acquire morality very early in life and empirical evidence verifying the importance of family for moral development, an influence of family socialization is assumed which may fade during adolescence. The body of research well documents the influence of peer interaction on moral development. Furthermore theory and empiricism suggest, that during adolescence the attachment to peers increases. An increasing influence of peers on the development of morality during adolescence is hypothesized. With both theoretical perspectives drawing on the importance of shame as moral emotion, a strong relationship between morality and shame is assumed.

## Study

The data to analyze the development of morality during adolescence is drawn from the study “Chances and Risks in the Life Course”. The study concentrates on the development of deviant and delinquent behavior over the life course in context of processes of social inequalities and is embedded as project A2 within the Collaborative Research Center 882 ‘From Heterogeneities to Inequalities’ at the Faculty of Sociology at the University of Bielefeld, Germany.<sup>3</sup>

The study consists of a longitudinal sample of approximate 3,000 pupils. The paper and pencil school survey started in 2012 and follows a cohort sequential design. Over the course of three years, annual follow up interviews have been conducted in two age cohorts in two German cities. The initial wave started with students in grades 5 (mean age 11) and 9 (mean age 15), the sample has been re-interviewed annually until grades 7 (mean age 13) and grades 11 (mean age 17). While in the city of Dortmund all type of schools are taking part in the survey, in Nuremberg the sample is drawn only from students of lower track schools. The study design allows comparisons from a cross-sectional as well as from a longitudinal perspective, a comparison of two age co-

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<sup>3</sup> Principal Investigators are Jost Reinecke (Faculty of Sociology, Bielefeld University) and Mark Stemmler (Institute of Psychology, University of Erlangen).

horts and temporal trends, and additionally a comparison of two German cities of comparable social structure.

The sample (see table 1) consists of a total of 2,757 students in the first wave, 2,977 participants in the second wave of data collection, and 3,185 pupils taking part in the third wave. Due to a broader acceptance and by that more schools taking part in the survey, the sample of the younger age cohort increases over the years, while students of the older cohort leave school during the collection of the interviews conducted, and thereby the mode of data collection partially changed from classroom interviews to postal survey.<sup>4</sup> Although primarily the students of the lower track schools were affected by this change, the resulting loss of respondents could be partially compensated by a oversampling strategy. Overall, the distortion in the panel by changing the mode is to be classified as rather low (see Meyer & Schepers, 2014: 21f.).

Table 1. Sample size

	2012		2013		2014	
	young cohort	old cohort	young cohort	old cohort	young cohort	old cohort
Dortmund	807	927	1,059	1,046	1,492	689
Nuremberg	529	494	627	245	791	213
total	1,336	1,421	1,686	1,297	2,283	902
	2,757		2,977		3,185	

Since the research question of this article is developmental, three wave panel data is used to test the hypotheses. Two datasets, one for each age cohort, are extracted, consisting of students participating in at least two out of the three measuring time points. Thereby respondents with information for only one time point are excluded from the analyses. The final data set contains 1,193 participants for the older cohort and 1,611 respondents in the younger cohort. The older cohort covers the age span between the mean ages of 15 and 17, the younger cohort contains adolescents of mean ages 11 to 13. In both age cohorts, female participants are slightly overrepresented. The younger cohort contains 47 % males, the older cohort 45 %. With the overall respondents mean

<sup>4</sup> For more information on sampling, the composition of the sample by school type and gender, and general information on data collection see Meinert & Sünkel, 2013; Schepers & Uysal, 2014; and Meinert & Uysal, 2015.

ages between 11 and 17, the sample covers an age span from the end of childhood throughout adolescence.

## **Operationalization and descriptive results**

Designed for a comprehensive test of SAT, the questionnaire includes several scales for measures of propensity and exposure. By translating the morality scale from the study PADS+<sup>5</sup>, this measurement of morality corresponds to the theoretical assumptions of SAT. This scale, as a modified version of the scale of prosocial values as used in the Pittsburgh Youth Study is in the German version applied for the first time. 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, containing 16 items, can be divided by type and severity of the included acts. In accordance with SAT, the evaluation of deviant behavior will be addressed as *minor moral infractions*, the assessment of consumption related behavior as *substance use infractions* and items in review of delinquent behavior as *major moral infractions* (Wikström et al., 2012: 133).

In general, throughout the scale and the measurement time points, the respondents show a high overall morality (cf. table 2). Especially the items referring to actual crimes (major moral infractions) are all rated as serious to very serious wrongdoings, in both age cohorts. From a descriptive mean difference perspective it becomes obvious, that the younger pupils score higher on their moral judgement than the older participants. During the three years of data collection, there is a decrease in means in morality in the young cohort, and relatively stable means in the old cohort. These results are comparable to the observation made in the PADS+ study concerning the moral development of adolescents: “The overall morality scale shows, on average, a general decrease between ages 13 to 16 followed by a stabilization in young people’s judgement of the wrongfulness of the included acts.” (Wikström et al., 2012: 133).

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<sup>5</sup> PADS+ stands for the Peterborough Adolescent and Young Adult Development Study and is based at the University of Cambridge, UK (Principal Investigator: P-O Wikström). Starting in 2002 with more than 700 participants, the study aims to test SAT und gain a better understanding of situational influences on adolescents crime involvement.

Table 2. Means (and standard deviations) of moral judgement

How wrong is it for someone your age to...	mean age					
	11	12	13	15	16	17
<b>minor moral infraction</b>						
ride a bike through a red light	3.6 (1.2)	2.9 (1.2)	2.5 (1.2)	2.2 (1.1)	2.2 (1.0)	2.3 (1.1)
skip doing homework for school	3.4 (1.2)	2.7 (1.2)	2.3 (1.1)	2.1 (1.1)	1.9 (1.0)	2.1 (1.0)
skip school without excuse	4.3 (1.0)	3.9 (1.1)	3.5 (1.2)	3.2 (1.2)	3.0 (1.1)	3.1 (1.1)
lie, disobey or talk back to teachers	4.3 (1.0)	3.8 (1.2)	3.4 (1.2)	3.3 (1.2)	3.1 (1.1)	3.3 (1.1)
go skateboarding in a place where skateboarding is not allowed	3.5 (1.2)	2.9 (1.2)	2.5 (1.2)	2.1 (1.1)	2.0 (1.0)	2.0 (1.0)
tease a classmate because of the way he or she dresses	4.0 (1.2)	3.8 (1.2)	3.8 (1.2)	3.7 (1.1)	3.7 (1.1)	4.0 (1.0)
hit another young person who makes a rude comment	4.2 (1.1)	4.0 (1.2)	3.9 (1.2)	3.8 (1.1)	4.0 (1.1)	4.1 (1.0)
steal a pencil from a classmate	3.5 (1.2)	2.8 (1.3)	2.5 (1.3)	2.7 (1.3)	2.4 (1.3)	2.5 (1.2)
<b>substance use infractions</b>						
smoke cigarettes	4.6 (1.0)	4.3 (1.2)	4.0 (1.3)	3.3 (1.4)	3.1 (1.4)	3.0 (1.4)
get drunk with friends on a Friday evening	4.6 (1.0)	4.4 (1.1)	4.1 (1.2)	3.0 (1.4)	2.7 (1.3)	2.4 (1.3)
smoke cannabis	4.7 (0.9)	4.7 (0.9)	4.5 (1.0)	4.3 (1.2)	4.0 (1.3)	3.9 (1.3)
<b>major moral infractions</b>						
paint graffiti on a house wall	4.4 (1.0)	4.2 (1.1)	3.9 (1.2)	3.9 (1.2)	3.8 (1.1)	3.9 (1.1)
smash a streetlight for fun	4.5 (0.9)	4.4 (1.0)	4.2 (1.1)	4.1 (1.1)	4.1 (1.0)	4.3 (0.9)
steal a CD from a shop	4.5 (0.9)	4.5 (1.0)	4.3 (1.0)	4.1 (0.9)	4.2 (1.0)	4.3 (0.6)
break into or try to break into a building to steal something	4.7 (0.8)	4.7 (0.9)	4.6 (0.9)	4.6 (0.9)	4.6 (0.8)	4.8 (0.6)
use a weapon or force to get money or things from another young person	4.8 (0.8)	4.7 (0.9)	4.7 (0.9)	4.7 (0.8)	4.8 (.07)	4.9 (0.5)
N	1,336	1,660	2,137	1,421	1,302	998

Note. Not wrong at all (1) to very wrong (5)

To shed light on the question if there is an intra-individual development in morality between the three measurement time points and if there is a variability in the change over time between individuals, second order latent growth curve model displays the development of the three latent dimensions, minor moral infractions, substance use infractions and major moral infractions individually, for the conditional latent growth curve models to estimate influences on the moral development a mean index including all 16 items will be used.

The influence of peers on moral development will be accounted for with a scale on peer delinquency. This scale is a measurement of how often the respondents think their friends commit seven different offenses.<sup>6</sup> Replies range from 1 (never) to 5 (very often) and are summarized to a mean index for the multivariate analyses. In general, respondents report a relative low crime involvement of their peers, with offenders reporting more delinquency of their peers (mean of 1.7 in the young cohort, mean of 1.9 in the old cohort) than non-offenders (mean of 1.2 in the young cohort, mean of 1.4 in the old cohort). Two items concerning the moral emotion shame are implemented. Respondents answer on a scale from 1 (no, not all all) to 4 (yes, very) if they would be ashamed if they do something bad and either their friends or respectively their parents become aware of this. In both age cohorts, respondents feel less ashamed in front of their friends, with a slight decrease of not feeling shame in front of friends for the younger cohort. In both age cohorts, the feeling of shame towards the parents appears rather stable and quite high over time. Family relationship and its influence on adolescents' morality will be investigated by applying a subscale of the Alabama parenting questionnaire (APQ, Essau et al., 2006). The dimension parental monitoring contains the measurement of the respondents leaving the house without giving notice, staying out past the time the respondents are supposed to be back home and leaving the house without a fixed time set to be back home. All items are measured on a five point Likert-scale from 1 (never) to 5 (very often) and summarized into a mean index for further analyses. As a time invariant control variable, gender is included in the models with 1 coded as male and 2 coded as female.

The overall delinquent behaviour is measured with a summarized index of a set of different items all relating to violations of law. The respondents in both age cohort are asked to report whether

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<sup>6</sup> The items measure steal something worth 15 € from a store, attack someone and hit him in the face, provoke someone and daunt him or her, take drugs, break into a kiosk, steal a bicycle, extort money from someone.

they committed the following offenses during the last year: graffiti, scratching, theft from vending machine, vandalism, damage of public property, cabin break-in, theft from classmate, theft from construction site, theft from kiosk, theft from store, bicycle theft, receiving or concealing of stolen property, and robbery. Additionally to these 12 items, due to age adequacy, the respondents of the older cohort are asked to report on their 12-month-prevalence of theft from a bar, car theft, assault, threat with a weapon, and dealing with drugs. Analyses are executed with a versatility index as dependent variable, ranging from 0 to 12 (young cohort), respectively 0 to 17 (old cohort), indicating how versatile the criminal behavior over a course of the last 12 month has been. While in the young cohort the respondents who report to have at least one of the offenses committed increase from 13.6 % (2012) to 19.7 % (2013) and 19.6 % (2014), the offending rate in the old cohort decreases over the years. In the initial wave of data collection the sample consisted of 32.8 % reported offenders, with a reduction to 24.5 % in 2013 and 16.7 % offenders in the longitudinal data set in 2014.

## **Multivariate analyses**

### **Method**

The relationship of the development of morality and peers and family influences are brought to test by applying second order latent growth curve models as well as conditional latent growth curve models (LGC). The models are embedded within the structural equation approach (SEM), which distinguish between manifest and latent variables. While manifest variables are measured directly, latent variables are dimensional constructs, assuming an underlying relationship. LGC models estimate a latent intercept and latent growth factor (slope) to investigate intra-individual change over time, under control of random measurement errors (cf. Reinecke, 2012: 24). By that, the LGC comprehends the development of a construct over time and can be extended by further predictors. With time-invariant as well as time-variant predictors the LGC allows to simultaneously explore the particular influences within the dynamic structure of intra- and inter-individual change (cf. Duncan et al., 2006: 78f). Differences of the mean initial value and inter-individual differences of the intercept can be researched, as well as change and variation within the characteristic trait. Furthermore, LGC allow to research the mean growth over time (slope) and their

inter-individual differences as well as the relationship of intercept and slope. All models are estimated with the statistical software Mplus (version 7.1) (Muthén and Muthén, 1998-2014). Full information maximum likelihood (FIML) estimation was used to address the issues of non-response (unit as well as item non-response).

## Results

A second order latent growth curve model (cf. figure 1) is estimated for each of the three dimensions of morality in each age cohort with a latent intercept and a latent slope to describe the development of morality over the three measurement time points.

Figure 1. Second order LGC for the development of morality

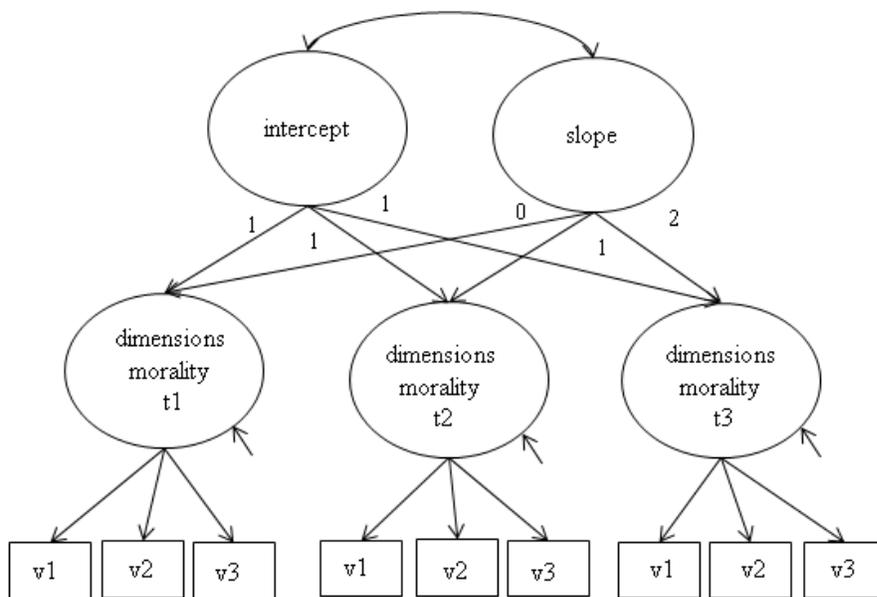


Table 3 summarizes the results from the second order latent growth curve models for all three dimensions of morality for both age cohorts. As already shown with the descriptive results, the initial value of the intercept is in general higher in the younger cohort. With minor moral infractions in the young cohort having a quite high and significant slope (-.544), the intercept in the old cohort for minor moral infractions shows a general smaller mean intercept than in the younger cohort (1.972). The decrease in all three measurement time points for the young cohort is signifi-

cant, becoming relatively smaller with the seriousness of the infractions. In the older cohort the slope indicates, that there is a small increase for the factors minor moral infractions and major moral infractions, but still a quite strong decrease (-.222) for the dimension substance use infractions. In both age cohorts the variance of the intercept produces significant results, indicating that respondents differentiate in their morality for the first measurement time point.

Table 3. Results of the second order LGC for the development of morality

	young cohort			old cohort		
	minor moral infractions	substance use infractions	major moral infractions	minor moral infractions	substance use infractions	major moral infractions
means intercept	3.321***	4.616***	4.517***	1.972***	3.371***	4.137***
means slope	-.544***	-.268***	-.098***	.062**	-.222***	.084***
variance intercept	.229***	.283***	.113**	.342***	.821***	.137***
variance slope	.080***	.106**	.033	.072**	.075	.023
correlation slope & intercept	-.162	-.147	-.089	-.399***	-.287*	-.460**
CFI	.980	.998	.997	.989	.986	.986
TLI	.964	.996	.994	.980	.975	.974
RMSEA	.053	.021	.030	.041	.045	.051
CFI	.046	.028	.033	.031	.053	.093

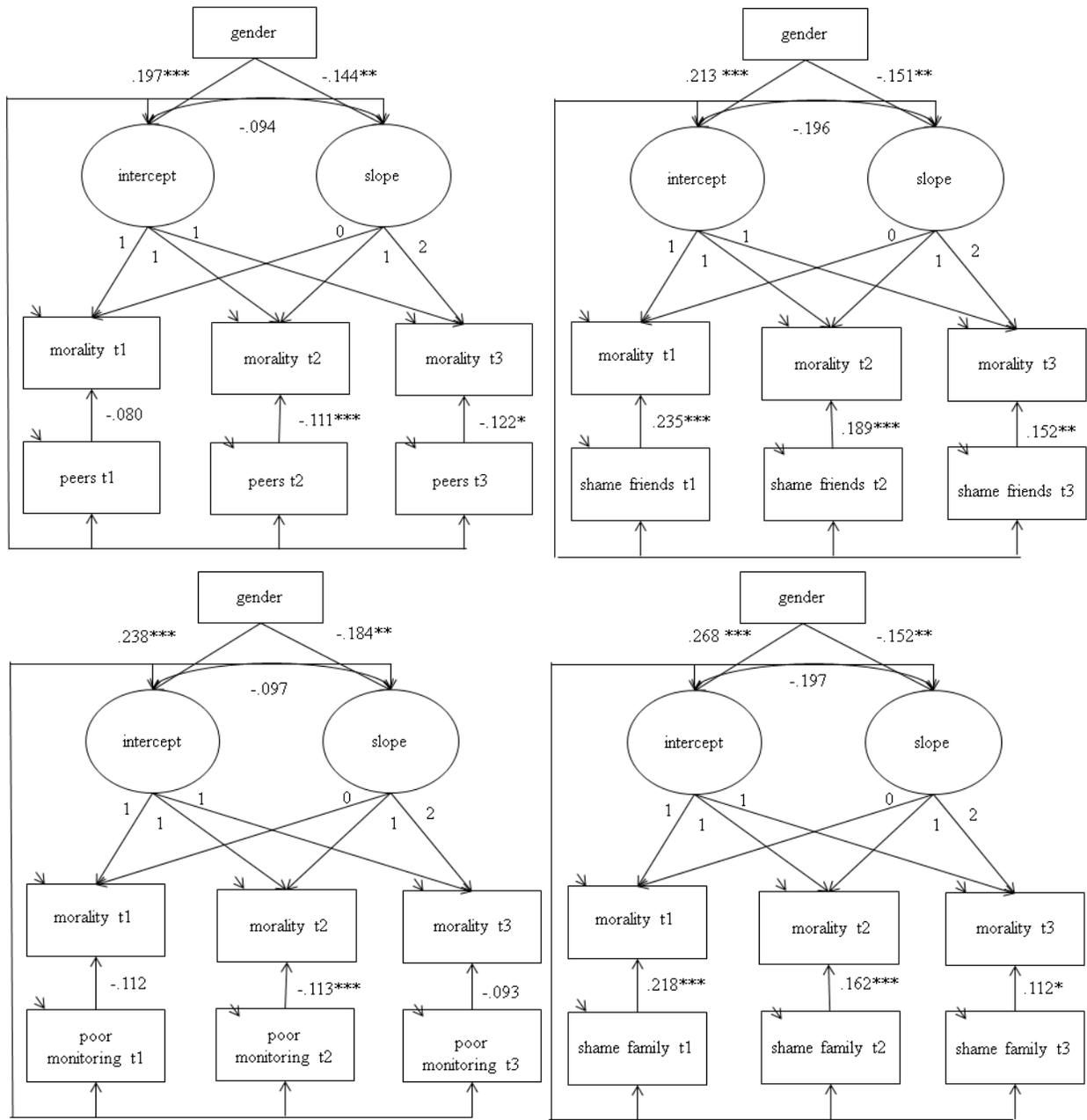
Note. \* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\* =  $p < .001$

The variance of the slope, producing some mixed results, suggests that there is a variability of change within people, but produces only significant effects for minor moral infractions in both age cohorts with an additional significant variance of the slope for substance use infractions in the young cohort,. A significant correlation of intercept and slope would hold the assumption that people with a higher (lower) morality morality in their initial measurement of time point 1 have a

higher (lower) change than people with lower morality. But this assumption seems not to describe the data for the young cohort but finds evidence in the old cohort.

With the overall morality index used in the conditional latent growth curve model having a mean intercept of 4.216 (variance of .214) and a mean slope of -.279 (variance of .058) in the younger cohort, the model for the moral development over time produces highly significant results and a good model fit (CFI .998, TLI .995, RMSEA .022, SRMR .009). The intercept is quite high in the initial measurement and shows a significant differentiation between individuals in their initial level. With each year the morality decreases and this decrease also indicates variability within the change between respondents. But since the covariance of intercept and slope is not significant, this change is independent on the initial level of morality. The growth curve models are extended for gender as a time invariant explanatory variable. These models calculate for each variable a regression coefficient to estimate the influence on the intercept as well as on the slope. Because the variable gender is dichotomous, the coefficients can be interpreted as mean differences with respect to slope and intercept. The positive significant effect of gender on the intercept indicates that males have a lower initial value in their morality at time point 1. The significant negative influence on the slope indicates, that the development of morality differs between the sexes with males having a lower variability. Conditional latent growth curve models address the results of the research interest in influences of family and friends on the development of morality in adolescence for the young cohort as shown in figure 2. The influence of delinquent peers on morality produces some mixed results. Delinquent peers have a negative effect on morality in general, with no significant relationship in time point 1, but significant effects for the later measurement time points. Being ashamed in case friends found out about delinquent behaviour of the respondents produces a highly significant positive effect on moral judgement. Similarly to the influence of peers, poor monitoring produces some mixed results with a general negative effect on moral judgement that only becomes significant in time point 2. But feeling shame if parent found out about the respondents misbehaviour appears to be the stronger predictor and has a positive effect on the adolescents' morality.

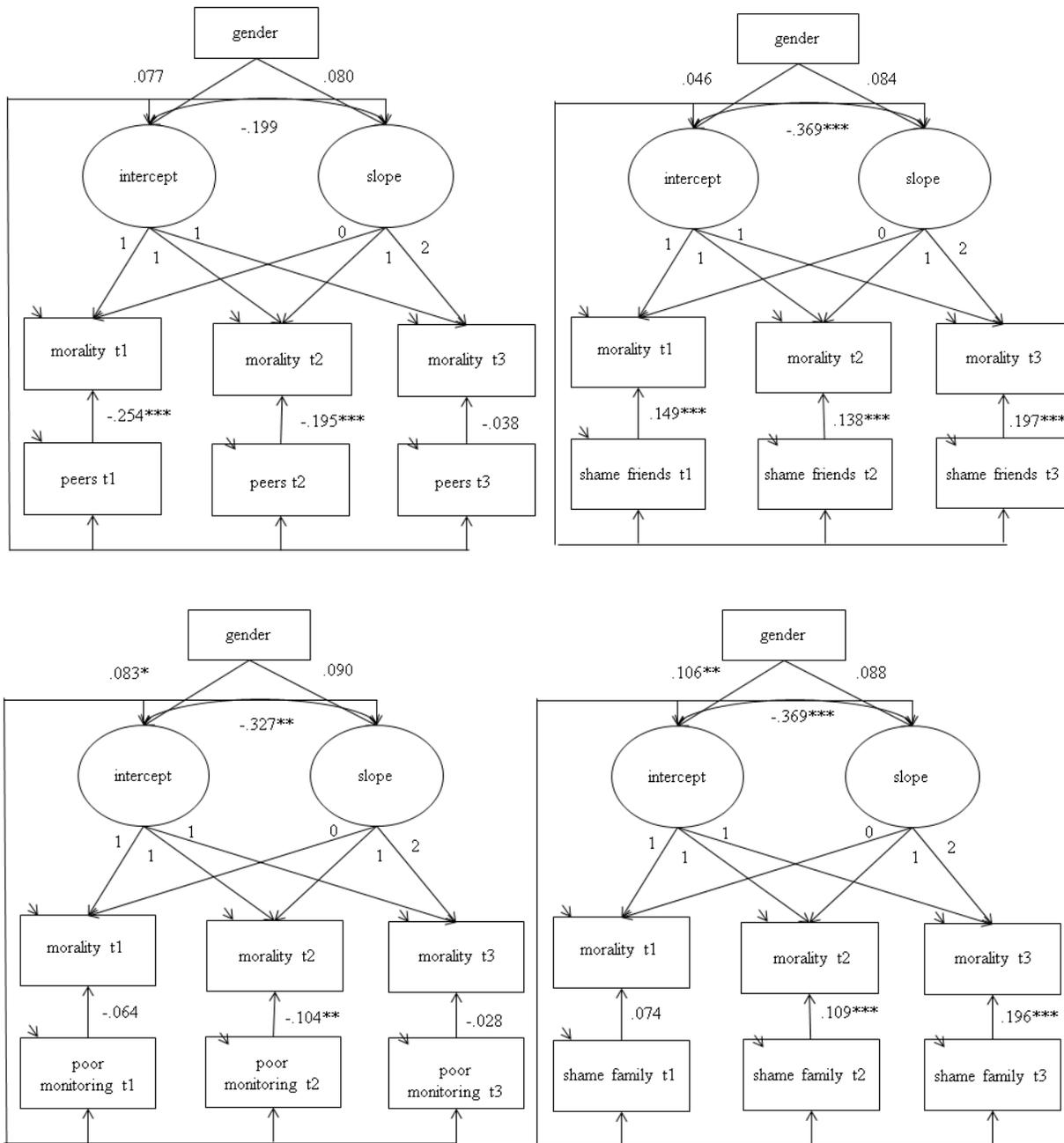
Figure 2. Conditional latent growth curve models for the influence of family and peers on moral development in the young cohort



Note. \* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\* =  $p < .001$

To receive comparable results to the young cohort, the same models as presented before are estimated for the respondents of the old cohort. The initial model on moral development shows a slightly less satisfying but still sufficient model fit (CFI .956, TLI .868, RMSEA .154, SRMR .037), despite the slope not being significant. The intercept with a mean of 3.422 (variance of .254) is lower than in the young cohort and in contrast to the young cohort the highly significant covariance of slope and intercept (-.314) indicates that change in moral judgement is dependent on the initial level of morality. The extended models (cf. figure 3), like the models for the young cohort, account for gender differences as well as influences of family and peers on moral development. The initial strong negative influence of delinquent peers on morality seems to decrease over time and does not show any more significant effect in time point 3. Shame in case friends found out about wrongful behaviour has a highly significant influence on morality in all measuring time points. The strong covariance of intercept and slope indicates, that respondents with a lower morality have a slower change. When controlled for peer influences, there remains no significant gender effect on intercept or slope for the development of morality. The influence of poor monitoring shows no significant effect except in the second wave, indicating that poor monitoring reduces moral judgement. In contrast, shame in front of family increases over time and has a positive effect on adolescents morality. By controlling for family influences on moral development, a slightly significant gender effect remains on the intercept of morality but does not show a gender difference in the general development over time. Similar to the results for the young cohort, shame is the stronger influencing predictor on moral development with an even increasing effect over time.

Figure 3. Conditional latent growth curve models for the influence of peers and family on moral development in the old cohort



Note. \* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\* =  $p < .001$

## Discussion

The results presented in this article on the development of morality as multidimensional construct and influences of family and peers on moral development in adolescence are in line with previous empirical research. While the overall morality in the young cohort is general very high, the strongest decrease is found in the judgement of minor moral infractions. The change in moral judgement seems to level out sometime in adolescence as seen in the non-significant slopes for the older cohort except for substance use infractions. But some of the variables measuring substance consumption are relating to behaviour that becomes legal within the reach of legal adolescence. Concerning influences of the development of morality the results show, that in general, the influence of parenting style decreases while the influence of delinquent peers increases. Poor parental monitoring accounts for a lack in social control, even indicating the parents failing in setting rules and internalizing social norms. However, the measurement of poor parental monitoring could be a weak predictor on the influence of parenting for the respondents of the older cohort. Since poor parental monitoring measures the setting of rules for time being home and being out longer than allowed, this might become less relevant for adolescence on the edge of legal adulthood and thereby increasing self-responsibility. The stronger predictor on the influence on moral development however, is the moral emotion of shame. Both, shame in front of friends as well as shame in front of parents is a rather stable influence on moral judgement. A strong interrelation of shame and morality is therefore to be assumed. This result is in accordance with the psychological perspective on moral development as well as the assumptions of SAT on the moral emotion of shame. The assumption of shame working as moral filter in an perception-choice-process leading to action has to be proven in further research.

Throughout the analyses, the gender difference is mainly a stable artifact, like in most criminological research. There remain difficulties for the explanation of the significant differences between males and females in crime causation especially since this should not be mistaken as a cause of criminal behaviour. Since the measurement of moral judgement however is a measurement of pro-social values, this may account for big parts of the gender gap since prosocial traits are associated with the feminine role (cf. Eisenberg et al., 2005: 242). The increase of insignificant gender effects indicates a slight adjustment for gender differences in moral judgement over time for the older cohort.

The question of increasing moral judgement as maturation is empirically hard to prove. Without controlling for other influences, a sense of maturation may be wrongly assumed, since it is difficult to prove that there are no undisputed and unaccounted influences on moral development. But the decrease of external influences in adolescence may indicate a generalizable maturation without offering any further prove at this point. However, the hypothesis of maturation might be also helpful for the explanation of the in criminological research proven spontaneous decline in delinquency during adolescence.

Research with data from this two age cohorts show throughout all analyses remarkable differences (e.g. Schepers and Reinecke, 2015; Schepers, 2016). Although, it may not be generalizable for a general population of adolescents but instead be a characteristic of this sample, the results make a strong case, especially for the study of youth, to always take developmental aspects into consideration. Especially since adolescence is a vulnerable time for external influences and internal changes.

Since morality is one of the main indicators for the involvement in criminal behaviour in context of SAT, the application of parallel latent growth curve models could be a demonstrative example of such parallel relationship. From a descriptive perspective the development of morality shows a similar development than crime involvement during adolescence, known as the age-crime-curve to criminology. However, situational aspects both in crime involvement as well in moral development are not considered in such a research question. This study is to be considered in context of the causes of the causes of crime causation, by focusing on the influences on moral judgement. Further research should integrate situational influences and interactional aspects. Although, this article does not focus on interactional nor situational effects, it demonstrates how integrating psychological insights into the longitudinal aspect of moral development can strengthen the case of morality being a major predictor in crime causation as hypothesized in SAT.

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