EVA-LOTTA NILSSON

PARENTAL SOCIALIZATION AND ADOLESCENT OFFENDING

Examining adolescent behavior, and in particular deviant behavior such as offending, one important context to look into is the family and the family dynamics. There are a range of different important dimensions characterizing the quality of parent-child interaction. This interaction is not a one-way communication, but is rather a two-way interaction between parent and child. These dynamics are important to study to be able to increase knowledge about differences in adolescent offending. Within criminology, there are many family-related aspects to take into account, for example and among other measures, parental monitoring. But also other measures, focusing on the quality of the relationship between parent and child, such as the emotional relationship between parent and child. As the family context has usually been identified as a key social institution for primary socialization, they also have been found to be important in influencing adolescent's whereabouts as well as their crime propensity.

Other behavior commonly studied among adolescents are substance use and also peer influences. In the present thesis, all data are based on measures of self-reported data and most studies employed longitudinal designs. Several different aspects were in focus in the thesis, and among others, most of the measures, for example parents' monitoring behaviors, are based on adolescents' perceptions of their parents' monitoring-related behavior and the parent-child relationship. Reports from adolescents have shown to differ from reports presented by parents; for example, adolescents tend to report lower levels of monitoring than their parents, and parents tend to report higher levels of positive parent-child relationships. A focus in the thesis is gender differences in offending and parent-child relation and interaction. This was the case

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ABSTRACT

The family environment, and primarily parents, have for a long time been studied as a major influence on the present and future development of young persons' offending. Although this field of research is extensive, there is still a lack of knowledge on this issue, which is primarily due to inconsistencies in the findings presented in the literature. The overall aim of this thesis is to shed light on how different aspects of parenting are associated with adolescent offending and with other factors related to an increased risk for offending. This relationship is illustrated in four studies, each of which has been conducted with its own specific objectives.

The first study examines gender differences in several family-related factors in relation to adolescent offending. Some of the measures examined are parental monitoring, child disclosure and parent-child conflict. The findings show that there are gendered differences in these family-related factors and in the associations between the different factors and offending. The study's results are not only indicative of real and important differences in the dynamics and patterns of family socialization among boys and girls, they also point to the importance of conducting more detailed studies of the different elements of family socialization, in order to be able to capture these gendered differences.

The second study employs a longitudinal design and explore both time-variant and long-term associations among parenting, deviant peer affiliations and substance use in a sample of adolescents aged 12-17. The main findings show that parents knowing where their children are, what they are doing, and whom they are with, is beneficial in providing protection against involvement with deviant peers, which in turn appears to be important for the development

of substance use. These results apply to both time-variant and long-term associations. The results also indicate that adolescents vary in their level of susceptibility to social influences by age, and that parenting in early adolescence shapes the landscape for involvement with deviant peers and substance use in later adolescence.

The aim of the third paper is to study different aspects of parental monitoring and young people's moral values in relation to the question of why some adolescents are more exposed to criminogenic settings than others. Both between- and within-person analyses are presented, with the results showing that adolescents who experience less monitoring and adolescents with poor moral values tend to be more exposed to criminogenic settings. The findings also indicate that a decrease in monitoring over time can explain some of the increase in criminogenic exposure over time. Parental monitoring seems to be important regardless of the level of a young person's moral values. Overall, the study thus indicates that it is important for parents to maintain high levels of monitoring during adolescence.

The aim of the study presented in the fourth paper is to explore the relationship between parental knowledge of adolescents' whereabouts and neighborhood disorder and collective efficacy, and in addition, to examine how parenting and neighborhood characteristics are related to, and how they interact in predicting adolescent offending. Two sources of data are employed to measure the contextual variables – adolescent perceptions, and measures from Malmö Community Survey. The findings indicate that perceived neighborhood characteristics are associated with different levels of parental knowledge. Parental knowledge showed itself to be the most important factor in relation to offending. An interaction was found between parental knowledge and perceived collective efficacy however, indicating that the effect of parental knowledge on offending is more powerful in neighborhoods where collective efficacy is perceived as being low.

LIST OF PAPERS

The thesis is based on the following four studies. These studies will be referred to in the text by their Roman numerals:

- I. Nilsson, E.-L. (2016). Analyzing Gender Differences in the Relationship between Family Influences and Adolescent Offending among Boys and Girls. *Child Indicators Research*. doi:10.1007/s12187-016-9435-6
- II. Nilsson, E.-L. (2016). Parents' Monitoring-Relevant Knowledge, Involvement with Deviant Peers and Substance Use: Time-Variant and Long-Term Associations among Adolescents Aged 12-17. *International Journal of Social Science Studies*. Vol. 4, 10: 91-100. doi:10.11114/ijsss.v4i10.1876
- III. Nilsson, E.-L., Ivert, A.-K., Torstensson Levander, M. Changes in various aspects of parental monitoring in relation to changes in adolescents' criminogenic exposure.
- IV. Nilsson, E.-L., Ivert, A.-K., Torstensson Levander, M. The importance of context for parenting – do adolescents' perceptions of parental knowledge of their whereabouts vary by neighbourhood characteristics?

Papers I and II are published with open access. Submitted papers have been reprinted with kind permission from the publishers. E.-L. Nilsson contributed to the above studies by designing the studies, performing the statistical

analyses (the analyses in paper III were conducted by E.-L. Nilsson and A.-K. Ivert), analyzing the results, and writing the manuscripts with support from the co-authors.

INTRODUCTION

The family context is considered to constitute an essential element in the process of socializing young people. The family socialization process, and factors that exert a significant influence on this process constitute an important area of research, since it is well documented that early relationships and life experiences not only affect a young person's current situation, but also have a major impact on future development (Gardner et al., 2012; Lee & Yoo, 2015; Viner et al., 2012). It has also been argued that the family, and primarily the parents, constitute a key social institution in which crime prevention practices should be implemented (Wikström & Treiber, 2017).

Even though the research on family socialization and adolescent offending is extensive, this field of research remains important and the research will never be exhaustive, since the parent-child relationship exists in a wider social environment that is constantly changing (see e.g. Bronfenbrenner, 1979; Elder, 1998; Mortimer & Shanahan, 2007). Although previous research provides strong guidelines and indicators regarding what is important for effective parenting, this is likely to change both over time and in different situations and contexts. Reviews of the relationship between parenting and adolescent offending have identified a number of gaps in the knowledge, which are mainly due to inconsistent findings, but also to the fact that knowledge on certain issues is scarce. First, there remains a need to deepen the knowledge on whether, and how, parental behavior and parent-child relations change over time (Hoeve et al., 2009; 2012). Second, the knowledge about gender differences in the link between attachment and adolescent offending has been found to contain contradictions. It is unclear whether the same family factors can explain the offending of boys and girls respectively and also whether

family influences have different significances for boys and girls (Hoeve et al., 2009;2012; Wong, Slotboom, & Bijleveld, 2010). Third, it has also been noted that there is a lack of research on the ways in which family socialization interacts with other contexts (Grusec & Hastings, 2015).

The overall aim of this thesis is to contribute to a better understanding of how different aspects of parenting are associated with adolescent offending and with other factors related to an increased risk of offending. The aspects in focus in the different papers are gender differences, changes in parenting and in the effects of parenting over time, and how parenting is affected by contextual factors, here neighborhood characteristics. These different aspects are assessed by combining different sources of data and measurement tools. Both cross-sectional and longitudinal designs are employed.

BACKGROUND

In this thesis, parental socialization constitutes the main theoretical framework for understanding how different aspects of parenting are associated with adolescent offending and with other factors related to an increased risk of offending. However, parent-child interactions and the socialization process, take place within a larger system, comprised of a complex set of contexts, and these contexts are in turn assumed to affect parental socialization. This section begins by presenting a broader theoretical framework focused on the parent-child interaction. This is followed by a presentation of central dimensions of theories on parental socialization in general, followed by a more specific focus on aspects unique to socialization during adolescence.

Parental socialization in an ecological model

If we want to achieve a complete understanding of the family socialization process, this process must be related to its social context. The family is only one of several social settings in which the child is involved. A child's experiences from her/his immediate setting outside the home, such as in peer groups or at school, are also brought into the family, and thus affect the content of the parent-child interaction. Theoretical models of social development generally hypothesize that the effects of socialization experiences extend beyond their immediate social contexts (e.g. Catalano & Hawkins, 1996; Patterson et al., 1998; Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994). Ecological models help us to understand how people interact with their environments. Bronfenbrenner (1979) has developed an influential model of the socialization process, in which he integrates contexts at different levels of importance for the socialization process. The basic idea of the model is based on a focus on the child's interaction with the environment and the child's

cognitive and emotional development. Although most theories focused on explaining social behavior and behavioral change point to the importance of the interaction between the child and its environment, what is specific to Bronfenbrenner's theory is its emphasis on the child's development in its *everyday context*. Bronfenbrenner is interested in the people with whom the child interacts in day-to-day situations, the character of these interactions and in what way persons outside the family can enhance or inhibit the quality of parent-child interactions.

Thus according to Bronfenbrenner (1979; 1994), human development must be understood within an ecological system. His model consists of five subsystems of different levels of environmental influences, which affect how the child develops. The first level of the ecological model is the microsystem, which refers to interpersonal relations that directly influence the child's development, including for example, family, school, neighborhood, and peers. The second level, or mesosystem, contains interconnections and processes between the microsystems that the individual is involved in, for example between the child's peers and the family. The third system in the model is the exosystem, which involves links between the individual's immediate context and social settings in which the individual does not have an active role; the parent-child interaction may be influenced by the parent's situation at work, for example. Fourth, the macrosystem describes the culture in which individuals live, and includes, for example, norms, lifestyles and politics. Fifth, the chronosystem is used to describe the patterning of environmental change over time, e.g. in the form of life transitions and events. When change occurs in one of the systems or levels, this has the potential to influence the other systems (Bronfenbrenner, 1979; 1994). Parental socialization, which constitutes the main focus of this thesis, must thus be discussed in relation to this larger system, in order to develop a more comprehensive picture of why parental socialization might manifest itself in different ways, for example, and why the outcomes of socialization may differ.

Central dimensions of parental socialization

Socialization broadly refers to a continuous process whereby an individual is taught the social skills, and learns the norms, values, roles and behavior needed for integration into a group or community, and to function in the culture in which the child is growing up (Smetana, Robinson, & Rote, 2015).

This is an ongoing and life-long reciprocal process (Elkin & Handel, 1989; Grusec & Hastings, 2015; Toby, 1974), which tends to produce conforming behavior (Toby, 1974). The family constitutes the first and most important context in which the socialization process begins. The parent-child interaction is arguably the most influential and widely studied context for the learning of moral values, social and emotional development, and behaviors (e.g. Grusec, 2011). This field of research is complex and has led both to theoretical development and to an extensive amount of empirical research across different disciplines.

Two central dimensions of within-family socialization, which constitute a central focus for the thesis are presented below: the emotional relationship between parent and child, and parental control. This will be followed by a discussion of combinations of these dimensions, which are usually categorized in terms of parenting styles.

The emotional relationship between parent and child

The emotional relationship between the parent and child, or ‘attachment’ as it is generally labelled by control theorists, has been identified as the most important element in the primary socialization process (Berger & Luckmann, 1967; Elkin & Handel, 1989). One prerequisite of successful family socialization is that parents relate well to the child emotionally.

Different theories focusing on the emotional relationship between parent and child have been developed in different academic disciplines. One example is found in attachment theory, a psychological model which describes the dynamics of interpersonal relationships, and which suggests that disrupted attachment during infancy, may have long-term negative consequences (Ainsworth, 1989; Bowlby, 1973). Within criminology, the attachment between parent and child is a central construct in social control theory (Hirschi, 1969; Sampson & Laub, 1993), but primarily constitutes a focus for social bonding theory (Hirschi, 1969). Hirschi posits that if parents have an affectionate relationship with their child, a strong bond will also develop between the parents and the child. Further, the stronger the child’s bonds to its parents, the stronger the conviction to act in accordance with their norms and values, i.e. the more attached to its parents a child is, and the more the child identifies with its parents, the lower the chances of involvement in crime. This

attachment tends to bind the child to parental expectations and therefore to the norms of the larger system (Hirschi, 1969).

Attachments between parents and children manifest themselves on a number of different dimensions. All of these dimensions play a significant role when it comes to understanding the strength of the parent-child bond. An attached child, for example, is used to sharing his or her life with parents (Ainsworth, 1989; Hirschi, 1969). As a result, communication, but perhaps even more importantly, the child's free disclosure of information about its life to parents, has been identified as a good indicator of a positive parent-child relationship (Hirschi, 1969; Kerr & Stattin, 2000). The quality of attachment between parent and child has also been argued to function as an indirect parental control (Hirschi, 1969).

Dimensions of parental control

Based on both early and more recent explanations of social control, a summarized definition has been presented as "processes and mechanisms by means of which a society motivates its members to conform to social norms" (Svensson, 2004, p. 2). Social control may function through the socialization process, which involves individuals internalizing social norms via their experiences in the context of social institutions. Socialization is therefore assumed to have a decisive impact on levels of social control (Hirschi, 1969; Kornhauser, 1978; Le Blanc, 1997; Nye, 1958; Reiss, 1951; Sampson & Laub, 1993).

Control exercised by parents, parental control, has been identified as being of considerable importance in the context of the primary socialization process (Gecas, 2000), and parental control of the child's behavior is fundamental to the child learning the rules and norms of society. Parents can control a child in a variety of ways, and control may manifest different degrees of permissiveness in relation to the child's needs and preferences. Weak control can mean that parents provide too little guidance as to the rules and norms that apply. Too much control, e.g. in the form of firm parental demands, inhibits the child's own initiative and limits a child's opportunities to test its skills and fulfil its own ambitions. It is through external control that internal control is developed in the child, and an insufficient level of internal control can in turn lead to various kinds of problem behavior (Martens, 1993).

Parental control is often discussed, and studied, in relation to autonomy granting. While autonomy granting refers to parental encouragement of the child's individual expression and decision making, e.g. in the form of allowing children to make choices about activities and behavior and encouraging the development of independence, parental overcontrol, at the other end of the spectrum, refers to highly controlling behavior which discourages independent behavior in the child (Silk, Morris, Kanaya, & Steinberg, 2003).

Behavioral and psychological control

Different forms of parental control have been distinguished in the literature. Behavioral control includes parenting behaviors that attempt to influence and control children's behavior, such as supervision, rule setting, and punishment. This has been conceptualized in the form of active parenting strategies that involve the communication of clear and consistent expectations for appropriate behavior, and also efforts to monitor the child's behavior in relation to these expectations (Akcinar & Baydar, 2014; Steinberg, Fletcher, & Darling, 1994). The structured regulation of children's behavior, e.g. in the form of setting rules and monitoring one's children, has been found to be consistently and often strongly associated with conformity in children (e.g. Baumrind, 1991; Snyder, Dishion, & Patterson, 1986; Steinberg et al., 1994). Harsh control, on the other hand, e.g. in the form of physical or verbal punishment and intrusiveness, has often been found to be related to negative developmental outcomes (Janssens et al., 2015). This kind of behavioral control can be distinguished from psychological control, which was first noted in the 1960s (Schaefer, 1965a; Schaefer, 1965b). Psychological control refers to an intrusive type of control, which attempts to restrict children's psychological and emotional development by manipulating their thoughts, emotions and feelings, e.g. through the use of guilt induction and shaming (Barber, 1996; 2002). Psychological control has been suggested to increase the risk of internalizing problems, such as depression and anxiety, because the parent intrudes into the adolescent's own sense of self (see Barber, 2002, for a review). A significant relationship has also been observed between psychological control and externalized behavioral problems, such as adolescent offending (e.g. Bradford et al., 2004; Mason, Cauce, Gonzales, Hiraga, 1996).

Combinations of dimensions as parenting styles

Baumrind (1971) has categorized different combinations of the dimensions described above in terms of parenting styles. For example, a pattern of upbringing that is characterized by strong control combined with consideration for the child's needs and wishes (i.e. affection) is defined by Baumrind as representing an *authoritative* attitude towards the child. An *authoritarian* relationship with the child, on the other hand, is characterized by strong control of the child, manifested in a control of the child that is entirely based on the parents' premises, combined with little or no affection. When parents exercise weak control of the child and at the same time show a profoundly considerate attitude to the child's needs and wishes, the parenting is labelled *permissive* (Baumrind, 1966; Baumrind, 1971). A fourth combination characterized by weak control of the child combined with a lack of interest in contributing to the child's needs, was added by Maccoby and Martin (1983), and represents parental *neglect* of the child. More recently, Baumrind has noted that authoritative and authoritarian parenting differ in the type of control employed. A distinction between the *confrontational* control of authoritative parents and the *coercive* control of authoritarian parents has therefore been added to the control dimension. While confrontational control is open to reasoning and negotiation, coercive control relies on threats and commands (Baumrind, 2013). Socialization has been found to be most effective when there is a positive emotional relationship between parents and child and when parental control is based on reason and explanation (Gecas, 2000). These combinations of parenting dimensions are still relevant and are employed in research in order to define and categorize parenting in relation to different outcomes, such as behavior and the well-being of children (e.g. Berge, Sundell, Öjehagen, & Håkansson, 2016; Uji, Sakamoto, Adachi, & Kitamura, 2014).

Parental socialization in adolescence

Socialization during adolescence is in many ways unique. Besides the fact that adolescence is a distinct developmental period, and that the transformations associated with puberty result in a growth spurt that is second only to that in infancy (Archibald, Graber, & Brooks-Gunn, 2006), several other changes occur during this period, both at the individual and the social level (Mulvey, 2014; Smetana, Campione-Barr, & Metzger, 2006; Steinberg & Silk, 2002).

Relationships with parents change during adolescence in ways that may influence adolescents' receptiveness to parental socialization. Despite this, in the area of criminological theory, many theorists do not explicitly raise the issue of whether or not the effects of key variables vary over time. The multidisciplinary developmental perspective is becoming more influential, however, and there has been an increase in the number of criminological studies based on this perspective (Morizot & Kazemian, 2015). The importance of the developmental perspective in criminology is linked to the idea that the etiological factors that affect adolescent offending and other deviant behaviors may vary across different developmental periods in the life course (Le Blanc & Loeber, 1998; Piquero, Farrington, & Blumstein, 2003).

The period of adolescence is generally characterized by a shift from the family to peer networks when it comes to interaction and social influence (Collins & Steinberg, 2006; Henry, Tolan, & Gorman-Smith, 2001). Consequently, parenting increasingly occurs at a distance, with children becoming more independent as new forms of social relationships emerge (Smetana et al., 2015). These changes result in significant changes in the amount of time that adolescents spend with their parents versus their peers, and also in the quality and type of relationship that they have with their parents (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996; Larson, Richards, Sims, & Dworkin, 2001). These changes pose a challenge regarding the ways in which parents are able to monitor their children.

Within the field of criminology, the research on socialization in adolescence has focused on a range of behaviors and individual characteristics as indicators of poor socialization. Several of the commonly studied outcome variables, such as offending, exposure to risk environments, experimental and/or regular alcohol and drug use, and moral values, for example, are expected to change during this period (e.g. Moffitt, 2006; Warr, 1993; Wikström et al., 2012). A certain amount of less serious antisocial behavior may be normative during adolescence (Moffitt, 2006), and while the incidence of these behaviors is low in early adolescence, a vast majority of contemporary adolescents have tested alcohol by the end of adolescence, for example (Leatherdale & Burkhalter, 2012).

Developmental change in parent-child interactions

Family interactions can and do change over time. Numerous studies have demonstrated that positive aspects of parent-adolescent relationships, such as support, closeness, warmth, cohesion and intimacy, decline during adolescence. These findings have been found among youth from diverse ethnic backgrounds and cultures (Fuligni, 1998; Furman & Buhrmester, 1985; Helsen, Vollebergh, & Meeus, 2000; McGue, Elkins, Walden, & Iacono, 2005; Shanahan, McHale, Crouter, & Osgood, 2007; Tsai, Telzer, & Fuligni, 2013), although the timing varies (Fuligni, 1998). The decline appears to level off in late adolescence and become more stable (Shanahan et al., 2007). The relationship between parent and child is not necessarily linear over time however (Tsai et al., 2013). Despite the underlying understanding that adolescence is a rather turbulent time, research has shown that various changes and disruptions in family dynamics across the adolescent years are typically short-lived, and that changes in family relationships during adolescence are generally moderate in size (Shearer, Crouter, & McHale, 2005). Within-family socialization has been described as a sequential process in which the parent-child relationship changes dramatically as children grow older, with each new phase emerging from of the parent-child relationship established earlier (Grusec & Hastings, 2015). Most researchers agree that these (normative) changes in family relationships during adolescence reflect adolescents' attempts to individuate themselves in relation to their parents and to develop greater autonomy. The increasing independence of adolescents is of importance for adolescent development and adjustment, and also for identity formation (e.g. Tsai et al., 2013).

Changing contexts of socialization

The changes in relationships with parents described above are paralleled by changes in adolescents' relationships with peers. With age, adolescents' friendships become closer and more intimate, and more characterized by disclosure and supportiveness. Peers are thus central to identity formation, which also reflects the increasing importance of peers as a context for adolescent socialization (Collins & Steinberg, 2006; Dijkstra & Veenstra, 2011). In general, adolescents' relationships with peers are associated with a number of positive aspects and outcomes. Within the field of criminology, however, the focus is primarily directed at the examination of how negative peer influences can provide an understanding of why some adolescents may be drawn into risky behavior such as adolescent offending (e.g. Asscher, Wissink, Deković, Prinzie,

& Stams, 2014; Piquero, Gover, MacDonald, & Piquero, 2005; Svensson & Oberwittler, 2010; Weerman, Bernasco, Bruinsma, & Pauwels, 2015).

These changing contexts in adolescence challenge the ways in which parents can control, or monitor, their children. When children are young, their play and organized activities are typically adult-supervised and often take place in, or in close proximity to, the home. However, during adolescence, teenagers become more independent, and their peer interactions and other activities increasingly occur away both from home and from direct adult supervision (Dijkstra & Veenstra, 2011; Laird, Pettit, Dodge, & Bates, 1998; Sullivan, 2014). Although parents generally believe that it is important to facilitate teens independence, they are also concerned with protecting their adolescents, keeping them safe, and ensuring that they follow social and moral norms (Smetana & Chuang, 2001). This tends to result in new monitoring strategies and ways of obtaining information about their children's activities and associates, and more distal forms of monitoring therefore become more important. Controlling, or monitoring, from a distance includes knowing where children are, whom they are with and what they are doing when they are away from home. It is also clear that during this period of adolescence, parents have to cease relying on their own vigilance, discipline and control and must begin to rely on their children's sense of responsibility and integrity to a greater extent (Kerr, Stattin, & Trost, 1999).

In summary, the importance of parental socialization in relation to adolescent behavior and development has been extensively studied both historically and globally. There is however a need to deepen our understanding of various aspects of parental socialization, for example in relation to adolescent offending. There are gaps in the knowledge within this field, which are mainly due to inconsistencies in the research findings. Recent reviews of the field have indicated that more research is needed to illuminate, for example, whether or not parental behavior and parent-child relations and bonds gradually change over time with regard to adolescent offending. Research on gender differences in the link between attachment and adolescent offending is another field that has been identified as being under-researched and characterized by contradictory findings (Hoeve et al., 2009; 2012). It has also been noted that there are a scarcity of research on how socialization within the family interacts with other contexts (Grusec & Hastings, 2015)

AIMS

The overall aim of this thesis is to contribute to a better understanding of how different aspects of parenting are associated with adolescent offending, and with other factors related to an increased risk of offending.

The specific aims of the different studies were:

To study gender differences in several dimensions of family-related factors in the explanation of adolescent offending (Study I).

To examine time-variant and long-term associations between parents' monitoring-relevant knowledge, involvement with deviant peers and substance use (Study II).

To analyze between-person comparisons and within-person changes in the associations between different aspects of parental monitoring and adolescent criminogenic exposure, and whether these associations are affected by adolescents' moral values (Study III).

To explore how parenting is influenced by neighborhood characteristics, and how parenting and neighborhood characteristics are related and interact in association with adolescent offending (Study IV).

METHODS

In this thesis, all studies are based on self-report data. Self-reports are a well-established and commonly used method in crime research, which has undergone substantial advances since the first more influential and systematic self-report studies were conducted in the 1950s (e.g. Short & Nye, 1957). Studies based on self-reports have been crucial for the development of criminology, both methodologically and theoretically, and have formed the basis for much of our understanding of crime and its correlates/causes (Junger-Tas & Marshall, 1999; Piquero, Macintosh, & Hickman, 2002). Research on socialization has also made considerably advances in recent years, which is partially attributable to more sophisticated methodological, conceptual and statistical tools, and also to the inclusion of a wide variety of theoretical perspectives and approaches (Grusec & Hastings, 2015).

The self-reported data employed in this thesis are drawn from three data sets; the Halmstad School Survey, Malmö Individual and Neighborhood Study (MINDS), and Malmö Community Survey (MCS). Both cross-sectional and longitudinal designs are employed. Table 1 presents an overview of the designs, populations, data, outcome variables and analytical strategies employed in the different papers.

This section first introduces the data employed in the papers and thereafter presents the main variables employed in the papers.

Data and populations

Halmstad School Survey

The data employed in Paper I are drawn from the Halmstad School Survey (e.g. Svensson & Pauwels 2010; Svensson, Pauwels, & Weerman, 2010) which was conducted in 2005 among all students in their final year of compulsory education in the Swedish town of Halmstad. The mean age of the students was 15 years. The overall aim of the survey was to examine adolescents' relationships with parents, peers and school, and their involvement in crime. The study constitutes a census of 1003 adolescents in 13 schools. The headmaster of each school distributed the questionnaires with information about the study to teachers, and the students completed the questionnaires during lesson time in the presence of the teacher. The students were guaranteed complete anonymity and each student was provided with an envelope in which to place the completed questionnaire. The non-response rate for the population was 15.2%.

Malmö Individual and Neighborhood Development Study

The data employed in Papers II, III and IV are drawn from the Malmö Individual and Neighborhood Development Study (MINDS) which was initiated in 2007 (e.g. Ivert & Torstensson Levander, 2014). The MINDS data comprise approximately 550 young persons (about 20% of the total cohort) born in 1995 and living in the Swedish city of Malmö, with some variation over the four waves of data collection, and 242 of their parents, who participated in the initial phase of the study. The overall aim of the MINDS project is to contribute to a better understanding of the causes and prevention of young people's offending, but also to study how exposure to social settings affects other aspects of adolescent development and health. MINDS is modelled on the Peterborough Adolescent and Young Adult Development Study, conducted at the Institute of Criminology, University of Cambridge (Wikström, Oberwittler, Treiber, & Hardie, 2012).

While the Halmstad School Survey is more reminiscent of what one might call a typical school survey, the data collection process in the MINDS study, and the construction of some of the measurement tools differ in some respects from traditional school surveys. The data include parent interviews, and surveys and a space-time budget interview with the adolescents. The first wave of data collection was comprised of parent interviews. These interviews were

standardized and were administered one-on-one with the young persons' primary guardians. During the interview, parents were asked about themselves, their family, their neighborhood, and their children. The interviews were typically conducted in the parents' home. This allowed interviewers to observe and document some key features of the neighborhood and household environments.

The young people's interviews were divided into two parts, one in which the self-report questionnaire was employed which was generally administered in groups of four adolescents supervised by a trained research assistant during regular school hours with no teachers present. The other part of the data collection took the form of a space-time budget interview, based on a structured interview guide, which was completed one-to-one with a researcher. These data were collected for four days of each participant's most recent week, with the four days including two regular weekdays and Friday and Saturday. The researcher registered data for each hour based on the following factors: geographic location (e.g. address), place (e.g. home, school), activity (e.g. studying, sleeping), and with whom the hour was spent. The data for each hour also contain information regarding special incidents, for example truancy from school, alcohol/drug use, victimization and the participants' own, or their peers', offending. The space-time budget interview was initially developed by Wikström and Butterworth (2006) in the Peterborough Youth Study, and is a method that combines a time-diary with a geographical component. The administration of the MINDS survey resulted in very low levels of internal non-response. For a more detailed description of the data collection process, see Wikström et al. (2012).

Malmö Community Survey

In addition to the MINDS data, Paper IV data includes data drawn from Malmö Community Survey, MCS (e.g. Gerell, 2017; Gerell & Kronkvist, 2016; Ivert, Torstensson Levander & Mellgren, 2015), which is a complementary to MINDS, and which provides small area data on phenomena that are not regularly included in official statistics (such as informal social control and neighborhood collective efficacy). This survey was conducted in 2012 among a random sample of residents ($n = 8000$) in the city of Malmö. The surveys were mailed to the participants. The final sample is comprised of 4051 respondents distributed over 104 neighborhoods in the

municipality, with 40-160 respondents in each neighborhood. The age of the respondents ranges from 18 to 85 and they are for the most part representative of the population as a whole with regard to age, gender, country of birth, educational level and employment status. Younger respondents (aged 18-32) are somewhat underrepresented in the survey. To minimize the underrepresentation of socially marginalized and vulnerable groups, which is common in this type of survey, neighborhoods where the response rate were expected to be low was oversampled. For a more detailed presentation of the MCS data, see Ivert, Chrysoulakis, Kronkvist, & Torstensson Levander (2013).

Table 1. Overview of the designs, populations, data, outcome variables, and analytical strategies employed in Papers I-IV.

Study	Design	Type of data	Sample	Outcome variable(s)	Analytical strategy
I	Cross-sectional	Survey	889 adolescents, Halmstad school survey	Adolescent offending	Ordinary Least Squares (OLS) regression
II	Longitudinal, Cross-sectional	Survey	190 adolescents and their parents, MINDS, four waves of data	Adolescent substance use, Involvement with deviant peers	OLS regression, path analyses
III	Longitudinal	Survey, Space-time budget	482 adolescents, MINDS, two waves of data	Involvement with deviant peers, Time spent unsupervised with peers in unstructured activities	Negative binomial multilevel analyses
IV	Cross-sectional	Survey	514 adolescents, MINDS / 4051 respondents MCS	Parental knowledge, Adolescent offending	ANOVA, OLS regression

Description of main variables

Parental socialization

Several different socialization variables, characterizing parenting and the parent-child relationship have been examined. They are all self-report measures, and are primarily based on adolescents' perceptions. These variables include parental monitoring, conflict with parents, attachment to parents, child disclosure, and parental knowledge. These measures are all multi-item scales, combined into composite scores. These are well-established and commonly used variables in the socialization literature and overall they have a high level of consistency. Family structure was also measured in Paper I, and was dichotomized into living with two parents, or living in a single parent family.

To capture a further dimension of parental monitoring, data from the space-time budget were also examined in Paper III. This measure represents the actual number of hours adolescents spend with their parents, giving us information about the total number of hours awake that were spent in the presence of parents over the four-day period covered by the interview. In the same paper, a measure of moral values was also employed and this measure is also a multi-item scale combined into a composite score. Moral values are relevant in the study of the socialization process in the family for several reasons, but perhaps most of all because moral values are something that children learn through the process of socialization, and primarily the parental socialization process (Grusec, 2011; Svensson, Pauwels, Weerman, & Bruinsma, 2016; Wikström & Sampson, 2003). Moral values have also been shown to be both a cause and consequence of socialization, and of offending (Catelano & Hawkins, 1996; Thornberry, 1987).

Self-reported offending

In Paper I and Paper IV, self-reported offending was measured in the form of outcome variables. The self-report questionnaire from Halmstad included fourteen offence items, and the MINDS questionnaire included nine. Different scaling methods were employed in the two papers. In Paper I, a log-transformed frequency scale was employed. Frequency scales measure the number of times that each offence has been committed in a certain period of time. This is one of the most commonly used scaling techniques (Bendixen, Endresen, & Olweus, 2003; Sanches, Gouveia-Pereira, Marôco, Gomes, & Roncon, 2016; Sweeten,

2012). In Paper IV, a variety scale was created by counting the number of offence types committed during a certain period of time.

Research evaluating scaling methods has shown that variety scales may be preferable over frequency scales. Variety scores tend, for example to be less skewed than frequency scores, since they assign equal weight to all offenses, whereas frequency scores tend to ascribe more weight to minor offences, given that these usually occur more frequently (Bendixen et al., 2003; Sweeten, 2012). However, Bendixen and colleagues (2003) found that a log-transformed frequency scale is about as good as the variety scale. Based on this knowledge, the log-transformed frequency scale was used in Paper I, and to test the validity of the results, a variety scale was also created and examined. The same results were obtained, indicating that the findings may be considered robust.

Adolescent substance use

In Paper II, adolescent substance use is measured as one of the outcome variables. Five items were combined into a composite score. The questions focus on the use of a broad array of substances, varying in severity, from smoking cigarettes to using drugs.

Criminogenic exposure

Two different measures of criminogenic exposure were examined as outcome variables in Paper III. Different measurement tools were used for each measure. *Involvement with deviant peers* is drawn from the MINDS survey data. This measure constitutes a general deviant peer process construct, focused on substance use and antisocial behaviors among friends, as perceived by the respondent, and is comprised of six items. The other measure of criminogenic exposure employed in Paper III is *time spent unsupervised with peers in unstructured activities*, which is based on data from the space-time budget interview and measures the total number of hours awake and that were spent in 'unsupervised unstructured peer-oriented activities'. Settings that include combinations of these elements have been suggested to be related to adolescent offending (e.g. Haynie & Osgood, 2005; Osgood & Anderson, 2004), and substance use (Steinberg et al., 1994). The first measure, involvement with deviant peers, was also used in Paper II. However, in Paper II, involvement with deviant peers is employed both as a dependent and independent variable.

Contextual variables

To examine how parenting is influenced by contextual variables, neighborhood characteristics were measured in Paper IV. The neighborhood characteristics studied in the paper are collective efficacy and disorder, and were measured using two sources of data, adolescents' perceptions (from the MINDS survey), and an independent, aggregated measure based on the Malmö Community Survey (MCS). Both measures of collective efficacy are based on two subscales - informal social control and social cohesion and trust. These two subscales were combined into a joint index of collective efficacy. Adolescents' perceptions of disorder are based on four items measuring the young persons' observations of disorder in their neighborhood. The Malmö Community Survey included five items focused on phenomena perceived as a problem in the participants' neighborhood. The contextual variables from the MCS were aggregated from the individual answers to the neighborhood level, in order to match the neighborhoods of residence of the adolescent respondents in MINDS.

Gender

In Paper I, the aim was to examine gender differences in socialization. Here the term "gender" is used rather than "sex", mainly because the variables included in the study, such as parental monitoring, may differ between girls and boys as a result of cultural prescriptions. There is disagreement among researchers as to which term is preferable with regard to differences in offending between girls and boys. The word "sex" is considered to be a natural term, indicating that the variable in itself does not explain anything. By contrast, "gender" refers to cultural prescriptions that are linked to being a girl or a boy. The term of gender seems to be commonly used in the area of crime research (Weerman, Bernasco, Bruinsma, & Pauwels, 2016).

Ethics

The data employed in the studies in this thesis have been collected and used in line with Swedish recommendations on research ethics (for details see: HSFR, 2002). The MINDS project was approved by Swedish Regional Ethical Review Board in Lund (Dnr. 201/2007) as was the Malmö Community Survey (Dnr 2014/826). None of the datasets employed contained any identifiable data, and the results are presented in a way that precludes the identification of the individuals study participants. For study II-IV, informed written consent was obtained both from the adolescents participating in the study and their parents.

MAIN RESULTS

The thesis consists of four studies which examine different aspects of the relationship between parenting and adolescent offending and other factors associated with an increased risk of offending. Both cross-sectional and longitudinal designs, and a number of different methodological approaches, are employed in the papers. A summary of the main results from the studies is presented below.

Gender differences in socialization

The first study addressed the question of the gender gap in offending and whether this could be explained by differences in parental socialization. To be able to provide a nuanced presentation of the associations between family influences and adolescent offending among boys and girls, several dimensions of family-related variables were included in the analyses. Following the use of *t*-tests for independent samples and having calculated Cohen's *d* to estimate the effect sizes, the findings showed that there are gender differences in these family variables. Attachment to parents was reported to be significantly stronger among boys than among girls, while girls, on the other hand reported significantly higher levels of parental monitoring, conflict with parents and disclosure.

OLS regression models were estimated to illuminate the question of whether the correlates of adolescent offending differ by gender, and showed some important differences between boys and girls. The final model showed that family structure, conflict with parents and child disclosure were variables that were significantly associated with offending among boys only, while girls' offending was significantly associated with attachment to parents. A second

multiple regression analysis was conducted to study whether the family variables included in the study could explain the gender differences in offending. The findings showed that the gender gap in offending cannot be explained by the family variables included in the study and that gender remains a robust predictor of offending.

Time-variant and long-term effects of parenting

The second study employs longitudinal data to explore time-variant and long-term associations between parents' monitoring-relevant knowledge and adolescents' involvement with deviant peers and substance use. Associations between the study variables were examined at different points in time, and a number of OLS regression analyses were conducted separately to analyze the study variables in the different waves of data. The patterns were similar across all waves of the study, and the less parents knew about their children's whereabouts, activities and peers, the more likely their children were to be using substances and to be involved with deviant peers. The monitoring-relevant knowledge of parents had a stronger effect on deviant peer affiliations than on substance use. The highest proportion of variance in substance use explained by a low level of parents' monitoring-relevant knowledge and involvement with deviant peers was found at age 15-16.

Mediation models also produced similar results across all waves of the study, and showed that the direct effect of parents' monitoring-relevant knowledge on substance use is non-significant. Parents' monitoring-relevant knowledge is more strongly associated with involvement with deviant peers than with substance use. However, the strongest correlation noted is that between involvement with deviant peers and substance use. Sobel tests were employed to examine indirect effects (Sobel, 1982). The indirect effect of monitoring-relevant knowledge on substance use was significantly mediated via involvement with deviant peers in all waves of the study.

A path analysis was conducted to examine a longitudinal model of the study variables. The findings indicate that parents' monitoring-relevant knowledge is related to substance use in later adolescence. However, and perhaps more importantly, parents' monitoring-relevant knowledge seems to be an essential factor in preventing adolescents from associating with deviant peers, which seems to be influential in the development and maintenance of substance use.

Changes in parents' monitoring strategies

In the third paper, two different monitoring-related measures, parental knowledge and time spent with parents, were assessed in order to examine different dimensions of the parental control of their children in relation to two measures of criminogenic exposure - involvement with deviant peers and time spent unsupervised with peers in unstructured activities. In addition to more common between-person analyses, within-person analyses were also conducted in order to examine how changes in monitoring strategies were related to changes in criminogenic exposure over time. In addition, adolescent moral values were included in the analyses to examine whether and how these had an effect on the association between parental monitoring strategies and criminogenic exposure.

Overall, parents monitoring their children more closely was found to be associated with adolescents being less exposed to criminogenic settings. The study variables were found to differ significantly over time. Levels of parental knowledge and the measures of criminogenic exposure increased between the different waves of the study, while the amount of time spent with parents and the level of moral values were found to decrease over time.

The between-person estimates indicated that adolescents would be expected to be at increased risk of exposure to criminogenic settings if parents are less knowledgeable of their whereabouts and if they spend less time with their parents. Although adolescents' moral values did not have a major influence on these associations, the results indicated that lower levels of moral values increase the risk for being involved with deviant peers.

The within-person estimates of how changes in monitoring strategies are related to criminogenic exposure over time showed that a decrease in parental knowledge was associated with an increase in involvement with deviant peers over time, and that a decrease in the time spent with parents was related to an increase over time in the amount of time spent unsupervised with peers in unstructured activities. Changes over time in moral values were not significantly associated with changes in either of the measures of criminogenic exposure.

Parenting influenced by contextual variables

In the fourth paper, the aim was to explore the relationship between parental knowledge of their children's whereabouts and neighborhood disorder and

collective efficacy, and in addition, how parental knowledge and neighborhood characteristics are related to, and interact in association with offending. Two sources of data were used to measure collective efficacy and disorder, adolescents' perceptions and independent measures from a community survey. Only the adolescent perceptions of collective efficacy and disorder were significantly associated with parental knowledge and offending. The main findings indicate that perceived neighborhood characteristics are associated with different levels of parental knowledge of their children's whereabouts. Analyses of variance (ANOVAs) were conducted and showed that neighborhoods with high levels of perceived collective efficacy and low levels of perceived disorder were associated with the lowest levels of perceived parental knowledge. The ANOVAs conducted to examine differences in offending showed that adolescents living in neighbourhoods with low collective efficacy and high levels of disorder reported the highest levels of offending.

An OLS multiple regression analysis was conducted to examine how the contextual variables and parental knowledge are related to and interact in association with offending. The results indicate that low levels of collective efficacy and high levels of disorder increase the risk for offending. When parental knowledge is included in the model, the effects of the neighborhood characteristics are no longer significant, and the results show that poor parental knowledge increases the risk for offending. However, parental knowledge and collective efficacy were found to interact significantly in the explanation of adolescent offending. This interaction effect indicates that the effect of parental knowledge on offending is stronger in neighborhoods where the collective efficacy is perceived to be low.

In summary, based on the findings of these four papers, the overall results show that parents are important for our understanding of adolescent problem behaviors throughout middle adolescence. Parental socialization of their children seems to vary, however, e.g. by age and gender. Parenting was also found to be influenced by neighborhood characteristics. In addition, the findings indicate that it is important to study multidimensional measures in order to be able to capture the complexity of the parent-child interaction in general, and of the concept of monitoring in particular.

GENERAL DISCUSSION

The overall aim of this thesis has been to contribute to a better understanding of how different aspects of parenting are associated with adolescent offending, and with other factors related to an increased risk of offending. This section begins with a discussion based on the overall findings from the four papers, which is then followed by a presentation of methodological considerations, implications for theory and policy making, and future directions.

Parenting – a dynamic and non-universal process

Few would question that parents are generally the primary agent of socialization for their children. However, it has been suggested that the relative impact of parental socialization changes over different periods in life (Branje, Hale, & Meeus, 2008), which is in line with the ideas presented by the developmental perspective (see Le Blanc & Loeber, 1998; Piquero et al., 2003).

Parenting and age

The findings indicate stability in the sense that parents remain important for the continuing socialization of their children during adolescence, although other influences grow stronger, and adolescents gain greater freedom and independence from their parents. Parents were found to have direct effects on adolescent behavior, and also indirect effects by reducing the risks and effects of negative influences that may develop among youths themselves. At the same time, the findings also show that the parent-child interaction is a dynamic process that varies both in its effects and in how it manifests itself.

For example, the studies' findings indicate that adolescents vary in their level of susceptibility to social influences, both from parents and from peers, at different ages. In addition, monitoring strategies were found to change over time in the sense that parents tend to monitor their children less directly over time and that they instead seem to come to rely on other more distal forms of monitoring. Findings in both Paper II and Paper III showed that parental knowledge increased over time, although the findings in Paper II showed that this development was not linear. Although other research has suggested that parental knowledge decreases over time (Janssen, Deković, & Bruinsma, 2014; Wikström et al., 2012), the increase noted in the current study might be explained by the fact that parental knowledge actually becomes increasingly important during this period. Since adolescents generally spend an increasing amount of time away from home, obtaining knowledge may be the most important way for parents to keep track of what their children are doing (Smetana et al., 2006a).

Even though these age-related patterns were noted in the papers, the differences are rather modest. Since the period studied in this thesis mainly covers middle adolescence, it is possible, or even likely, that these patterns would be different, or more distinct, if a longer period, ranging from early to late adolescence, were examined.

Parenting and gender

When it comes to gender differences in the relationship between family socialization and adolescent offending, a review of the literature shows that it remains rather unclear whether different dimensions of parent-child attachment have the same importance for boys and girls respectively (Hoeve et al., 2009; 2012; Wong et al., 2010). The findings in this thesis indicate that there are qualitative gender differences in experiences of and reactions to different dimensions of parenting, and/or that boys and girls are susceptible to different dimensions of parent-child attachment and interaction to a varying extent. To produce a more comprehensive picture of these socialization patterns within the family, we may need to analyze these patterns together with individual factors and/or structural contexts, such as maturity, gender expectations and social attitudes. There are good reasons to argue, for example, that differences in the influence of family on the offending of boys and girls may be partially understood and explained by developmental

differences between boys and girls. This is something that is rarely discussed in the literature however.

The parent-child interaction embedded in context

Parenting is one of many factors that play a role in the development of both adaptive and maladaptive behavior in adolescents (Bronfenbrenner & Morris, 2006; Lerner, Rothbaum, Boulos, & Castellino, 2002). Drawing on Bronfenbrenner's (1979) ecological theory, researchers have devoted a great deal of effort to examining how different contexts interact. The contexts that play an immediate role in young people's development, such as the family, school, peers and neighborhoods have been well examined in relation to the explanation of adolescent problem behaviors such as offending and/or substance use. In the literature, several of these contexts are also commonly examined in combination (e.g. Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006; Fine, Mahler, Steinberg, Frick, & Cauffman, 2016; Henry et al., 2001; Svensson, 2003). The findings from this thesis show that peer influences, and neighborhoods, are both contexts that play an immediate role in young people's lives, and that are important for the understanding of differences in both parenting strategies and adolescent substance use.

When it comes to how the family environment is affected by contexts that operate at more distant levels, e.g. through the impact of cultural developments, historical time and place, or family-related social policy, the research generally remains limited. Trifan and colleagues (2014) have noted that, given that parenting is embedded in culture and time, surprisingly few studies have focused on changes in parenting over time. Similarly, Grusec and Hastings (2015) have noted that socialization cannot be fully understood without also considering the complex ways in which socialization interacts with contextual factors. While this has been noted rather frequently in the literature, it has more rarely actually been studied. To fully adopt a broader approach to the study of family socialization would require a combination of quantitative and qualitative methods (Mortimer & Shanahan, 2007). Another possible way forward would be to employ contextual factors as a tool for analyzing and reflecting on research results. Reflections of this kind may be particularly important in comparative studies.

Gender differences in context

As was mentioned earlier in the discussion, one means of obtaining a more comprehensive picture of the findings on gendered differences in family socialization would be to reflect on different aspects of the broader structural context, such as gender expectations and social attitudes. Adding historical time and place to the analysis could contribute to the development of an even more comprehensive picture, since societal norms and attitudes both affect and are followed by families, are embedded in the time and place in which the family is located (Elder, 1998; Mortimer & Shanahan, 2007). As such, specific family situations can and do vary considerably over time and across different societies (Uhlenberg & Mueller, 2003). In Sweden, for example, contemporary parents are more flexible and democratic than the parents of previous generations, and also than parents in several other countries. The family environments of today are also generally more egalitarian (Ahlberg, Roman, & Duncan, 2008; Trifan, Stattin, & Tilton-Weaver, 2014). These kinds of time trends in parenting and family environments are likely to impact on gender-related differences in socialization, and the differences noted in this thesis may have been more marked in previous generations, and are also likely to change in the future, as well varying across different nations and cultures.

Family structure in context

Another example would be to reflect on the meaning and the effect of growing up in different family structures. This aspect has not been the main focus in any of the papers, but nonetheless constitutes an important dimension of the family environment, and is something that needs to be developed further in the literature in general. The importance of family structure has long been a focus for research directed at the explanation of adolescent offending (e.g. Cernkovich & Giordano, 1987; Demuth & Brown, 2004). Traditionally, and also in this thesis, the measure of family structure has been dichotomized into intact or non-intact families, i.e. living with both parents or living with separated parents. However, the diversity of family structures in the Western world is arguably greater today than at any other point in history (Fransson, Låftman, Östberg, Hjern, & Bergstöm, 2017; Patterson, Farr, & Hastings, 2015). To be able to achieve a better understanding of the meaning and effect of family structure in relation to adolescent behavior, there is a need both to construct and examine more elaborate measures of family structure, and also

to reflect on the societal attitudes, e.g. regarding the level of acceptance of alternative family constellations and structures.

Although the literature on diverse family structures is scarce, particularly within the field of criminology, there are good examples of studies from other disciplines that have looked more closely at family structure, and that have also presented their results in relation to a broader context. Fransson and colleagues (2017), for example, examined the living conditions of children with shared residence against the background of Swedish family policies and the current Swedish child welfare system. The findings showed that most of the study outcomes (e.g. social relations with parents and peers, health and health behavior) were similar for children with separated parents who spent an equal amount of time in both parents' homes and for children living with both parents in the same household. Several outcomes were worse for children living with only one parent however (Fransson et al., 2017). These findings are particularly interesting considering the long history of criminological research showing that coming from a broken home is related to an increased risk of offending. More elaborate measures of family structure are needed to shed new light on the importance of different family constellations and how they affect both parenting and adolescent offending.

Monitoring in context

The findings presented both in this thesis and in previous research indicate that parental monitoring may change when children become adolescents (Barber, Maughan, & Olsen, 2005). One important component in monitoring adolescents is dialog and communication (Crouter & Head, 2002; Kerr & Stattin, 2000). An important question that remains under-explored in this context is that of the influence of mobile phones and other technological tools, in relation to monitoring and parent-child relationships. Advances in technology have added a new dimension to keeping track of, and staying in contact with children. Mobile phones provide a means for parents to monitor and request information about adolescents' whereabouts, associates, and current activities, and findings have shown that mobile phone conversations and text messaging are used by parents to gain information about their children (Becker, 2012). Other findings show that calls between parent and adolescent when upset, were associated with less parental knowledge and poorer family relations. However adolescents who made calls seeking social

support and to ask about and discuss matters with parents also reported higher levels of perceived parental knowledge and better family relationships (Weisskirch, 2009).

The importance of multidimensional measures of parenting

The reference to multidimensional measures is in this case twofold. Firstly, it relates to the examination of a range of different measures in order to be able to capture the complexity of the parent-child relationship; secondly, it relates to the examination of the concept of monitoring, which also includes different dimensions. In the context of this thesis, monitoring is the only measure that is examined in all four papers. The measures of monitoring have been operationalized in different ways, and the concept of monitoring is thus defined differently.

By including multidimensional measures that are of relevance to the parent-child relationship and interaction, we are able to capture more specific distinctions and mechanisms that are important for developing an understanding of differences and changes in the relationship between family influences and adolescent offending, substance use or other activities that increase the risk of such behavior.

When it comes to the recommendation to use a multidimensional approach to study the concept of parental monitoring, this is in part a result of the findings presented in the papers, and in part it stems from theoretical and empirical discussions of the monitoring concept that have been presented in the literature. Monitoring may be described as a generic term that has been used in the literature to refer to a wide range of different measures of parental control. The concept incorporates both an emotional dimension, supervision, and communication between parents and their children. Hirschi's (1969) original formulation of control theory, for example, emphasized indirect controls in the form of the child's emotional bond or attachment to parents. Hirschi did not view direct parental controls (for example, monitoring) as important because they would not appear to be effective in situations that provide opportunities for offending. For Hirschi, relational controls were thus the most crucial factor in inhibiting adolescent offending. Similarly, Hagan (1989) refers to attachment as "relational" control. Hagan also

incorporates what he labels “instrumental control”, e.g. supervision and monitoring, in his power-control theory.

In more recent discussions of the concept of monitoring, much attention has been focused on the measurement of “monitoring” in relation to the way in which the concept has been interpreted in the literature (Stattin & Kerr, 2000). Stattin and Kerr’s main criticism is that the literature examining parental monitoring actually measures parental knowledge, but nonetheless continues to label the measure, and to interpret them as if they were measures of monitoring – a concept that indicates active parenting. Their research also shows that parents can obtain knowledge in different ways, but that the primary source of parental knowledge about their children’s activities has been shown to be the spontaneous disclosure of information by the adolescents themselves (Kerr et al., 1999). This would indicate that “monitoring” is in fact more a measure of adolescent activity than of active parenting (Kerr et al., 1999; Kerr & Stattin, 2000; Stattin & Kerr, 2000). Thus, both the child and the parent are active agents in the process of producing parental knowledge about their children’s whereabouts.

In this sense, it is reasonable to argue that parental knowledge, at least to some extent, reflects the parent-child relationship, i.e. attachment. Studies have found links between parental knowledge and other parenting characteristics. For example, parents who are supportive and have warm parent-child relationships are more likely to have high levels of knowledge (Fletcher, Steinberg, & Williams-Wheeler, 2004; Soenens, Vansteenkiste, Luyckx, & Goossens, 2006), and a warm and positive parent-child relationship characterized by mutual trust has also been found to be associated with increased adolescent disclosure (Kerr et al., 1999; Smetana, Metzger, Gettman, & Campione-Barr, 2006; Soenens et al., 2006). Thus, warm, trusting relationships between parents and youth may explain the association between parental knowledge and youth outcomes. In addition, parental knowledge has been identified as a central factor linking other monitoring-related behaviors to youth outcomes. Several studies suggest that the effects of parents’ monitoring efforts and of child disclosure on youth outcomes are dependent on whether or not they lead to an increase in parental knowledge (Fletcher et al., 2004; Lippold, Greenberg, Graham, & Feinberg, 2014). Other research has produced similar results, but in reverse, showing that parents

who are knowledgeable about youth activities may have the information necessary to provide the structure, supervision, and discipline required to monitor peer relationships, for example, and subsequently to reduce youth offending (Crouter & Head, 2002; Stattin, Kerr, & Tilton-Weaver, 2010). Stavrindides (2011) found that parents obtain knowledge about their children from two main sources - parental monitoring and child disclosure, while Kerr and colleagues (1999) have identified the parental solicitation of information from their children as a third source of parental knowledge.

In this thesis, active monitoring was not found to be significantly associated with offending, whereas parental knowledge was found to be important for understanding adolescent offending, involvement with deviant peers and also substance use. This might, again, indicate that parental knowledge may constitute the most important dimension of monitoring in adolescence. However, more research is needed to examine several monitoring-related measures simultaneously over the whole period of adolescence in order to improve our knowledge of how monitoring dimensions develop and relate to one another, and also of how the different measures are associated with adolescent offending over time. The different monitoring measures appear to be interrelated both with one another and with other measures that describe different characteristics of the parent-child relationship.

Methodological considerations

Although the self-report method has improved over the past sixty years, with many of the problems and limitations identified in early studies having been addressed, the use of self-report studies still raises a number of methodological issues. Some of these relate to the self-report methodology in general, while others are related to self-report studies on crime in particular. Some of these issues are discussed below.

Respondent effects in self-report

The validity of self-reported studies on crime has been shown to differ between different groups of respondents in ways that it is important to be aware of (Hindelang, Hirschi, & Weis, 1981; Huizinga & Elliott, 1986). The central question is that of whether some respondents' answers are more valid than those of others. Differences in the validity of responses may be related to factors such as age, for example. The validity of measurements of offending

has often been found to be lower in adult samples than in samples of young people. This has been explained by the tendency of adult respondents to be more eager than younger people to give socially desirable answers (Junger-Tas & Marshall, 1999).

Perceptions

The variables employed in the papers presented in this thesis are mainly based on measures of adolescents' perceptions of parenting behavior, parent-child relations and peer deviance. Research has noted that there seem to be discrepancies between reports made by parents and adolescents respectively. It has been suggested, for example, that adolescents tend to report lower levels of e.g. monitoring than their parents (Abar, Jackson, Colby, & Barnett, 2015; Cottrell et al., 2003). This may be explained by findings presented by Noller and Callan (1988), which show that adolescents tend to overestimate the negative aspects of parenting as a result of desire to express their uniqueness and independence. On the other hand, parents have been suggested to be more likely to emphasize the positive characteristics of their families (Steinberg, 2001). This may have implications for interpretations of study findings. For example, when it comes to changes in monitoring, these may reflect changes in adolescents' perceptions, rather than an actual change in parental monitoring strategies. In addition, the data employed in the thesis also reflect adolescent perceptions of deviance among their peers. One important limitation in this regard is that research has shown that adolescent reports may overestimate the similarity between their own behavior and that of their peers (Aseltine, 1995; Urberg, Cheng, & Shyu, 1991). Measures of peer deviance that rely solely on respondent reports have been found to inflate the correlation between personal and peer deviance (Haynie & Osgood, 2005; Rebellon, 2012; Weerman & Smeenk, 2005; Young, Rebellon, Barnes, & Weerman, 2015).

Representativeness

One important and fundamental difference between studies conducted using data from official statistics and studies based on self-report data of criminal behavior is that in the latter case, the researcher is responsible for the sampling process, which is ultimately critical to the quality of data collected (Shannon, 2006). One common criticism of school surveys is that there is a risk that they will not include a representative sample of offenders, since the likelihood of absence from school due to truancy is thought to be higher

among offenders (Cernkovich, Giordano, & Pugh, 1985; Lindström, 1993; Thornberry & Krohn, 2000). According to critics, this would result in the data mainly reflecting relatively conformist youth, which would then pose a threat to the validity of the data (Shannon, 2006; Thornberry & Krohn, 2000). Researchers have responded to this critique by arguing that it is not reasonable to assume that the majority of non-participants are truants who also commit large numbers of offences and that many students may be absent for valid reasons, for example because of illness (Ring, 2010). In follow-ups of non-participants in school surveys, students with no valid reason for their absence have been found to constitute a minority of absentees. The impact that non-participants may have on the results of school surveys should therefore not be exaggerated, but at the same time, it cannot be entirely ignored when comparing results. As has been noted by Junger-Tas and Marshall (1999), the effects of non-participation on the results of such studies will depend on the size and the distribution of the group of non-participants. The biggest threat to the representativeness of self-report data is posed by systematic, rather than random, non-participation.

The Halmstad School Survey included students in their final year of compulsory education from all of the schools in the Swedish town of Halmstad. The non-response rate was relatively low at approximately 15 %. When it comes to MINDS, it is possible that young people with an increased risk of offending are not representatively included, since the MINDS-sample is not fully representative of the city of Malmö. Adolescents of foreign background and adolescents from the more disadvantaged areas of the city are somewhat underrepresented, and there is something of an overrepresentation of adolescents from the wealthier parts of the city. This may possibly have affected the results, and they should therefore be interpreted with caution, particularly in comparisons with the results of other studies. It also means that the results need to be replicated in additional studies.

One major methodological challenge facing the research community today is the issue of non-participation. There seems to be a decreasing willingness among people to participate in studies and to answer surveys. The question of how to maintain high levels of participation that are also representative is therefore an important one. Web-based surveys are becoming more common, and may help dealing with this issue to some extent.

Implications for theory and policy making

The findings presented in this thesis are important in terms of their theoretical relevance, but also in terms of their implications for policy making. An important issue when it comes to theoretical implications builds on the long-standing debate concerning static versus dynamic theories, i.e., whether or not parental behavior and parent-child relationships change over time in relation to adolescent offending (e.g. Brame, Bushway, & Paternoster, 1999). Theories on the causes of crime present contradictory hypotheses. While static theories (Hirschi, 1969; Gottfredson and Hirschi, 1990) suggest that the link between parenting and adolescent offending is relatively stable over time, dynamic theories have challenged this hypothesis. One example is found in the work of Sampson and Laub (1993; 2005), which argues that the relationship between parenting and delinquency is expected to change over time. The findings presented in this thesis provide support for the hypothesis that parent-child attachment and interactions are associated with young people's offending as described by Hirschi (1969), for example. At the same time, although the findings only relate to a relatively short period of time, which mainly covers middle adolescence, the findings also indicate that the parent-child relationship, and the relationship between parenting and adolescent offending, changes over time. Thus, the findings favor the use of dynamic perspectives in the attempts to understand the nature of these associations. Moreover, the findings indicate that patterns of socialization, and the associations between parental socialization and adolescent offending, are not universal, since the results showed differences in socialization patterns between boys and girls.

Parents play a significant role as a resource for crime prevention, since they are among the most influential socialization agents and moral educators of children and adolescents. It has therefore been suggested that they represent a key social institution in which crime prevention practices should be implemented, since they exert an important influence on young people's propensity to commit crime (Wikstöm & Treiber, 2017). Several family-based intervention programs have been evaluated and shown to be effective in preventing offending among young people. Both general parent education and more formal parent training, for example, have been shown to be successful (Farrington & Welsh, 1999). In order for professionals to be successful, they must make use of the existing research and integrate this with their own professional expertise and also with the perspective of the individual child and

the family (Andershed & Andershed, 2015). Although the findings in this thesis do not suggest any immediate practical applications, the knowledge may be used to develop and improve family-focused intervention programs that target offending in youth.

The results relating to the links between monitoring, attachment and adolescent offending may have particular implications for parent management training programs. These findings indicate that programs should focus on training parents to actively monitor and guide their children in order to enhance parents' knowledge of the whereabouts of their children. At the same time, parent training programs should also emphasize improvements in the relationship between parents and children and the development of trust, since this enhances child disclosure and child disclosure is a major source of parental knowledge (see Kerr & Stattin, 2000). The findings also indicate that although peers have a strong influence on substance use in adolescence and are therefore important targets for adolescent interventions, the risks produced by deviant peer-group affiliations might also be addressed by means of interventions focused on families.

Future directions

This is a field of research that has received a great deal of attention and a large number of studies have been conducted to examine the relationship between family socialization and adolescent risk behaviors such as offending. When it comes to directions for future research, many of the suggestions presented in this thesis are related either to societal changes that may influence parent-child interactions and the family environment or to furthering our understanding of the concept of monitoring. Most of the suggestions have been mentioned or discussed previously, and they are summarized below.

The results presented above indicate that interesting changes occur in relation to the concept of monitoring during the period of adolescence, which relate to the different dimensions covered by this concept. More research is needed to examine several monitoring-related measures simultaneously over the whole period of adolescence in order to increase the knowledge of how different aspects of monitoring develop and relate to one another over time. The different monitoring measures seem to be related to one another in a complex way, and also to other measures that characterize the parent-child relation-

ship. We also need more knowledge about how these changes and different dimensions of monitoring are associated with adolescent offending over time. For example, changes or declines in specific dimensions of monitoring may be associated with an increased risk for some adolescents to engage in offending, while for others, these changes might simply reflect a natural development towards becoming more independent. Based on the discrepancies found between adolescent and parent reports (Abar et al., 2015; Cottrell et al., 2003), additional knowledge would also be gained if different dimensions of monitoring were to be examined over the course of adolescence on the basis of both adolescents' and parents' perceptions.

Another issue, which has not been in focus in this thesis, is the two-way interaction that takes place between parents and their children. There is a great deal of research confirming that the parent-child interaction is reciprocal, with findings showing, for example, that parental knowledge of their children's whereabouts both influences and is influenced by youth behavior (Laird, Criss, Pettit, Dodge, & Bates, 2003; Keijsers, Branje, Vandervalk, & Meeus, 2010). The further investigation of such reciprocal effects among different monitoring concepts, as well as of how these reciprocal effects develop over time, would add interesting knowledge to the literature.

The family unit can manifest itself in a diverse array of forms, and families come in many different shapes, sizes and versions. However, this reality is not fully reflected in research. Within the field of criminology, it is important to study different family constellations more thoroughly, and to examine what significance these diverse families have in relation to both the family environment and adolescent behavioral outcomes.

Parenting is very important at the individual level, but there are also other factors that are important for family socialization and for youth behavior at the cohort level. Against the background of what has been discussed previously, there is a need for research to place a greater emphasis on how cultural developments, and historical time and place affect socialization within the family. Gardner and colleagues (2012) have stressed that there is a surprising lack of robust data on trends in parenting behavior, particularly in relation to adolescents. One example discussed earlier is the ways in which the everyday use of mobile phones may affect parents' monitoring strategies,

which is something that we need to know more about. As new challenges for parents arise and societal conditions develop in ways that affect young people's lives, there will also be a need for further research on this issue, and on a number of other circumstances that are associated with historical time and place.

POPULÄRVETENSKAPLIG SAMMANFATTNING

Tidiga relationer och erfarenheter påverkar barn och ungdomars situation både här och nu och i deras fortsatta utveckling. Det är därför viktigt med kunskap om vad som ger en bra start i livet, vad som bidrar till att det fortsätter att gå bra och vad som kan förhindra eller förändra en negativ utveckling över tid.

Inom kriminologin är socialisationsprocessen inom familjen och de faktorer som påverkar denna process ett centralt och omfattande forskningsområde. En av de främsta anledningarna till det är att föräldrar generellt sett anses vara den mest betydelsefulla socialisationsagenten. Föräldrar har därför identifierats som en viktig brottspreventiv resurs, eftersom de har möjlighet att påverka barn och ungdomars brottsbenägenhet.

Tonårsperioden anses vara en särskilt utmanande tid för föräldrabarnrelationen. Under denna period sker en mängd olika förändringar som påverkar och i vissa fall försvårar socialisationsprocessen. Ungdomar spenderar exempelvis generellt allt mer tid hemifrån, vilket utmanar föräldrars möjlighet att kontrollera och ha tillsyn över sina barn. Dessutom skiftar ungdomar oftast fokus till att bli mer ”kompisorienterade”, vilket innebär att kompisar får allt större inflytande under tonårsperioden.

Den här avhandlingens övergripande syfte är att bidra med kunskap om, och på vilket sätt, samspelet och relationen mellan föräldrar och deras barn kan förklara ungdomars brottslighet och andra beteenden som brukar förknippas

med en ökad risk att begå brott. I avhandlingens fyra delstudier har detta samband studerats utifrån olika perspektiv och med hjälp av olika metoder.

I den första delstudien studerades könsskillnader i flera olika dimensioner av relationen och samspelet mellan föräldrar och barn, som till exempel föräldrakontroll, konflikter, och känslomässiga band till föräldrar, samt om det är samma dimensioner som är viktiga för att förstå flickors respektive pojkars brottsliga beteende. Resultaten visade att det finns intressanta skillnader mellan pojkar och flickor i relationen och interaktionen med föräldrar och det visade sig också vara olika dimensioner som är viktiga för att förklara pojkar respektive flickors brottsliga beteende. För pojkar visade det sig att det främst är konflikter med föräldrar och att växa upp i en familj med separerade föräldrar som är förknippade med ökad brottslighet. För flickor verkar det däremot främst vara en svag anknytning till föräldrar som ökar risken för brottslighet. Detta pekar på att det finns viktiga skillnader i dynamiken i familjesocialisationen mellan flickor och pojkar.

Den andra delstudien hade longitudinell design. Syftet var att studera hur inflytande från både föräldrar och kompisar påverkar ungdomars konsumtion av alkohol och droger. Sambanden studerades dels vid olika åldrar och över tid. Resultaten visade att kompisar med negativt beteende har en direkt påverkan på ungdomars konsumtion av alkohol och droger. Föräldrainflytandet är snarare indirekt genom att det skyddar mot negativt inflytande från kompisar. Det här mönstret återkommer vid olika åldrar och över tid. Resultaten visade dock att det, beroende på ålder, finns en viss variation i hur mottagliga ungdomar är för sociala influenser. Dessutom pekar resultaten på att tidig föräldrakontroll har betydelse för utveckling över tid. Hur mycket föräldrar känner till om var deras barn är, vad de gör och vem de umgås med under tidiga tonår, skapar en grund för i vilken utsträckning barnen umgås med kompisar med negativt beteende och/eller i vilken utsträckning de konsumerar alkohol och droger i senare tonår.

Den tredje delstudiens syfte var att studera om och hur föräldrakontroll och ungdomars moral förändras över tid, samt om det kan förklara varför vissa ungdomar i högre utsträckning än andra exponeras för kriminogena miljöer, det vill säga miljöer som av olika anledningar ökar risken för att begå brott. Resultaten visade att ungdomar som har låg moral och vars föräldrakontroll

är låg tenderar att tillbringa mer tid i kriminogena miljöer. Över tid visade resultaten från studien också att en minskning i föräldrakontroll över tid delvis kan förklara en ökning i hur mycket tid ungdomarna spenderar i kriminogena miljöer. Föräldrakontroll visade sig vara viktigt oberoende av ungdomars moral. Dessa resultat bekräftar resultaten från delstudie två, och pekar också på att det är viktigt att föräldrar upprätthåller en hög nivå av kontroll över sina barn under tonårstiden för att undvika att de exponeras för kriminogena miljöer.

I den fjärde delstudien var syftet att undersöka om ungdomars upplevelse av vad deras föräldrar känner till om deras aktiviteter varierar i relation till kollektiv styrka och problemnivå i deras bostadsområden. I den här studien studerades både ungdomarnas upplevelser av bostadsområdet, samt data från en fristående undersökning där vuxna rapporterat om sina upplevelser av samma områden. Resultaten visade att ungdomars upplevelse av föräldrakontroll varierar beroende på hur de upplever sitt bostadsområde. I bostadsområden med hög upplevd problemnivå och låg kollektiv styrka, upplevde ungdomar att deras föräldrar har mindre kännedom om deras aktiviteter. Det fanns inte något samband mellan vuxnas upplevelser av bostadsområdet och föräldrakontroll. I denna fjärde delstudie undersöktes också sambanden mellan ungdomarnas upplevelse av föräldrakontroll respektive upplevelse av kollektiv styrka och problemnivå och självrapporterad brottslighet. Resultaten pekade på att föräldrakontroll är det som främst påverkar om ungdomar begår brott eller inte. Resultaten visade också att upplevd föräldrakontroll har större effekt på ungdomsbrottslighet i områden där den kollektiva styrkan upplevs som låg.

Sammanfattningsvis visar resultaten i den här avhandlingen att relationen och samspelet mellan föräldrar och barn överlag är viktig för att förstå skillnader i ungdomars brottslighet och andra beteenden som brukar förknippas med ökad risk för att begå brott. Genom att studera flera olika aspekter som är av betydelse för socialisationsprocessen inom familjen är det möjligt att fånga komplexiteten och viktiga nyanser i detta samspel. Avhandlingen visar att samspelet och relationen mellan föräldrar och barn verkar variera beroende på ålder och kön. Detta innebär att föräldrasocialisationen är en dynamisk process, och visar också på att den inte är lika för alla. Dessutom verkar upplevelsen av föräldrakontroll ha större betydelse i områden/miljöer som av

ungdomarna upplevs ha en lägre nivå av social kontroll. Dessa resultat är viktiga teoretiskt men även praktiskt, eftersom resultaten kan ge riktlinjer för interventioner riktade mot familjen. Till exempel pekar resultaten på att även om inflytande från kompisar har stor betydelse för alkohol och droganvändande i tonåren, så kan risken med negativt inflytande från kompisar påverkas med interventioner riktade mot familjen.

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REFERENCES

- Abar, C. C., Jackson, K. M., Colby, S. M., & Barnett, N. P. (2015). Parent–child discrepancies in reports of parental monitoring and their relationship to adolescent alcohol-related behaviors. *Journal of Youth and Adolescence*, 44(9), 1688-1701. doi:10.1007/s10964-014-0143-6
- Ahlberg, J., Roman, C., & Duncan, S. (2008). Actualizing the “Democratic family”? Swedish policy rhetoric versus family practices. *Social Politics*, 15(1), 79-100. doi:10.1093/sp/jxn003
- Ainsworth, M.D.S. (1979). Infant-mother attachment. *American Psychologist*, 34(10), 932-937. doi:10.1037/0003-066X.34.10.932
- Akcinar, B., & Baydar, N. (2014). Parental control is not unconditionally detrimental for externalizing behaviors in early childhood. *International Journal of Behavioral Development*, 38(2), 118-127. doi: 10.1177/0165025413513701
- Andershed, A. K., & Andershed, H. (2015). Risk and protective factors among preschool children: integrating research and practice. *Journal of evidence-informed social work*, 12(4), 412-424. doi:10.1080/15433714.2013.866062
- Archibald, A. B., Graber, J. A., & Brooks-Gunn, J. (2006). Pubertal processes and physiological growth in adolescence. In: G.R. Adams & M.D. Berzonsky (Eds.), *Blackwell Handbook of Adolescence* (pp. 24-47). Oxford: Blackwell Publishing.
- Aseltine Jr, R. H. (1995). A reconsideration of parental and peer influences on adolescent deviance. *Journal of Health and Social Behavior*, 36, 103-121.
- Asscher, J. J., Wissink, I. B., Deković, M., Prinzie, P., & Stams, G. J. J. (2014). Delinquent behavior, poor relationship quality with parents, and involvement with deviant peers in delinquent and nondelinquent adolescents: Different processes, informant bias, or both? *International Journal of Offender Therapy and Comparative Criminology*, 58(9), 1001-1019. doi: 10.1177/0306624X13491389
- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development*, 67(6), 3296-3319. doi:10.1111/j.1467-8624.1996.tb01915.x

- Barber, B. K. (2002). *Parental psychological control of children and adolescents*. Washington, D.C.: American Psychological Association Press.
- Barber, B. K., Maughan, S. L., & Olsen, J. A. (2005). Patterns of parenting across adolescence. *New Directions for Child and Adolescent Development*, 108, 5-16. doi:10.1002/cd.124
- Barnes, G. M., Hoffman, J. H., Welte, J. W., Farrell, M. P., & Dintcheff, B. A. (2006). Effects of parental monitoring and peer deviance on substance use and delinquency. *Journal of Marriage and Family*, 68(4), 1084-1104. doi:10.1111/j.1741-3737.2006.00315.x
- Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child Development*, 37, 887-907. doi:10.2307/1126611
- Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology*, 4(1, Pt.2), 1-103. doi:10.1037/h0030372
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *The Journal of Early Adolescence*, 11(1), 56-95.
- Baumrind, D. (2013). Is a pejorative view of power assertion in the socialization process justified? *Review of General Psychology*, 17(4), 420-427. doi.org/10.1037/a0033480
- Becker, R. (2012). *The role of technology in parental monitoring of adolescents*. (Doctoral dissertation, The Chicago School of professional psychology). Retrieved from ProQuest Dissertation and Theses. (Accession Order No. 3515238).
- Bendixen, M., Endresen, I. M., & Olweus, D. (2003). Variety and frequency scales of antisocial involvement: Which one is better? *Legal and Criminological Psychology*, 8(2), 135-150. doi:10.1348/135532503322362924
- Berge, J., Sundell, K., Öjehagen, A., & Håkansson, A. (2016). Role of parenting styles in adolescent substance use: Results from a Swedish longitudinal cohort study. *BMJ Open*, doi:10.1136/bmjopen-2015-008979
- Berger, P. L., & Luckmann, T. (1967). *The social construction of reality: A treatise in the sociology of knowledge*. New York: Doubleday Anchor Books.
- Bowlby, J. (1973). *Attachment and loss* (vol. 1). New York: Basic Books.
- Bradford, K., Barber, B. K., Olsen, J. A., Maughan, S. L., Erickson, L. D., Ward, D., et al. (2004) A multi-national study of interparental conflict, parenting, and adolescent functioning: South Africa, Bangladesh, China, India, Bosnia, Germany, Palestine, Colombia, and the United States. *Marriage and Family Review*, 35, 107-137. doi:10.1300/J002v35n03_07
- Brame, R., Bushway, S., & Paternoster, R. (1999). On the use of panel research designs and random effects models to investigate static and dynamic theories of criminal offending. *Criminology*, 37(3), 599-642. doi:10.1111/j.1745-9125.1999.tb00498.x
- Branje, S. J., Hale III, W. W., & Meeus, W. H. (2008). Reciprocal development of parent-adolescent support and adolescent problem behaviors. In M. Kerr, H. Stattin & R. Engels (Eds.), (pp. 135-162). West Sussex: John Wiley & Sons, Ltd.

- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard university press.
- Bronfenbrenner, U. (1994). Ecological models of human development. *International Encyclopedia of Education* (vol. 3, 2nd ed.). Oxford: Elsevier.
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner, & W. Damon (Eds.), *Handbook of child psychology* (6th, Vol. 1 ed., pp. 793-828). Hoboken, NJ: Wiley.
- Catelano, R. F., & Hawkins, J. D. (1996). The social development model: A theory of antisocial behaviour. In J. D. Hawkins (Ed.), *Delinquency and crime: Current theories* (pp. 149-197). Cambridge: Cambridge University Press.
- Cernkovich, S. A., & Giordano, P. C. (1987). Family relationships and delinquency. *Criminology*, 25(2), 295-319. doi:10.1111/j.1745-9125.1987.tb00799.x
- Cernkovich, S. A., Giordano, P. C., & Pugh, M. D. (1985). Chronic offenders: The missing cases in self-report delinquency research. *The Journal of Criminal Law & Criminology*, 76, 705-732.
- Collins, W. A., & Steinberg, L. (2006). Adolescent development in interpersonal context. In N. Eisenberg, W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology* (pp. 1003-1067). New York: Wiley.
- Cottrell, L., Li, X., Harris, C., D'Alessandri, D., Atkins, M., Richardson, B., & Stanton, B. (2003). Parent and adolescent perceptions of parental monitoring and adolescent risk involvement. *Parenting: Science and Practice*, 3(3), 179-195. doi:10.1207/S15327922PAR0303_01
- Crouter, A. C., & Head, M. R. (2002). Parental monitoring and knowledge of children. In M. Bornstein (Ed.), *Handbook of Parenting* (2nd ed, pp. 461-483). Mahwah, NJ: Erlbaum.
- Demuth, S., & Brown, S. L. (2004). Family structure, family processes, and adolescent delinquency: The significance of parental absence versus parental gender. *Journal of Research in Crime and Delinquency*, 41(1), 58-81. doi:10.1177/0022427803256236
- Dijkstra, J., & Veenstra, R. (2011). Peer relations. In B. Brown & M. Prinstein (Eds.), *Encyclopedia of Adolescence*, (vol. 2, pp. 255-259). New York: Academics Press.
- Elder, G. H. (1998). The life course as developmental theory. *Child Development*, 69(1), 1-12. doi:10.1111/j.1467-8624.1998.tb06128.x
- Elkin, F., & Handel, G. (1989). *The child and society: The process of socialization*. New York: Random House.
- Farrington, D. P., & Welsh, B. C. (1999). Delinquency prevention using family-based interventions. *Children & Society*, 13, 287-303. doi:10.1002/CHIS70
- Fine, A., Mahler, A., Steinberg, L., Frick, P. J., & Cauffman, E. (2016). Individual in context: The role of impulse control on the association between the home, school, and neighborhood developmental contexts and adolescent delinquency. *Journal of Youth and Adolescence*, 1-15. doi:10.1007/s10964-016-0565-4

- Fletcher, A. C., Steinberg, L., & Williams-Wheeler, M. (2004). Parental influences on adolescent problem behavior: Revisiting Stattin and Kerr. *Child Development*, 75(3), 781-796. doi:10.1111/j.1467-8624.2004.00706.x
- Fransson, E., Låftman, S. B., Östberg, V., Hjern, A., & Bergström, M. (2017). The living conditions of children with shared residence – the Swedish example. *Child Indicators Research*, 1-23. doi:10.1007/s12187-017-9443-1
- Fuligni, A. J. (1998). Authority, autonomy, and parent–adolescent conflict and cohesion: A study of adolescents from Mexican, Chinese, Filipino, and European backgrounds. *Developmental Psychology*, 34(4), 782-792.
- Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, 21(6), 1016-1024. doi:10.1037/0012-1649.21.6.1016
- Gardner, F., Collishaw, S., Maughan, B., Scott, J., Schepman, K., & Hagell, A. (2012). Trends in parenting: Can they help explain time trends in problem behaviour. In H. Hagell (Ed.), *Changing adolescence. Social trends and mental health* (pp. 75-91). Bristol: The Policy Press.
- Gecas, V. (2000). Socialization. In E. F. Borgatta & R. J. V. Montgomery (Eds.), *Encyclopedia of Sociology* (vol. 4, pp. 2855-2864). New York: Macmillan Reference.
- Gerell, M. (2017). Collective efficacy and arson: the case of Malmö. *Journal of Scandinavian Studies in Criminology and Crime Prevention*, pp. 1-17. doi:10.1080/14043858.2017.1298172
- Gerell, M., & Kronkvist, K. (2016). Violent Crime, Collective Efficacy and City-Centre Effects in Malmö. *British Journal of Criminology*, 1-23. doi:10.1093/bjc/azw074
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Palo Alto: Stanford University Press.
- Grusec, J. E. (2011). Socialization processes in the family: Social and emotional development. *Annual Review of Psychology*, 62, 243-269. doi:10.1146/annurev.psych.121208.131650
- Grusec, J. E., & Hastings, P. D. (2015). *Handbook of socialization: Theory and research* (2nd ed ed.). New York: Guilford Publications.
- Hagan, J. (1989). *Structural Criminology*. New Brunswick, N.J.: Rutgers University Press.
- Haynie, D. L., & Osgood, D. W. (2005). Reconsidering peers and delinquency: How do peers matter? *Social Forces*, 84, 1109-1130. doi:10.1353/sof.2006.0018
- Helsen, M., Vollebergh, W., & Meeus, W. (2000). Social support from parents and friends and emotional problems in adolescence. *Journal of Youth and Adolescence*, 29(3), 319-335. doi:10.1023/A:1005147708827
- Henry, D. B., Tolan, P. H., & Gorman-Smith, D. (2001). Longitudinal family and peer group effects on violence and nonviolent delinquency. *Journal of Clinical Child Psychology*, 30(2), 172-186. doi:10.1207/S15374424JCCP3002_5

- Hindelang, M. J., Hirschi, T., & Weis, J. G. (1981). *Measuring delinquency*. Beverly Hills, CA: Sage Publications.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Hoeve, M., Dubas, J. S., Eichelsheim, V. I., Van Der Laan, P. H., Smeenk, W., & Gerris, J. R. M. (2009). The relationship between parenting and delinquency: A meta-analysis. *Journal of Abnormal Child Psychology*, 37(6), 749-775. doi:10.1007/s10802-009-9310-8
- Hoeve, M., Stams, G. J. J., van der Put, Claudia E, Dubas, J. S., van der Laan, Peter H, & Gerris, J. R. (2012). A meta-analysis of attachment to parents and delinquency. *Journal of Abnormal Child Psychology*, 40(5), 771-785. doi:10.1007/s10802-011-9608-1
- HSFR. (2002). *Forskningsetiska principer inom humanistisk- samhällsvetenskaplig forskning*. Stockholm. Vetenskapsrådet
- Huizinga, D., & Elliott, D. S. (1986). Reassessing the reliability and validity of self-report delinquency measures. *Journal of Quantitative Criminology*, 2(4), 293-327. doi:10.1007/BF01064258
- Ivert, A-K., Chrysoulakis, A., Kronkvist, K., & Torstensson Levander, M. (2013) Malmö områdesundersökning 2012: Lokala problem, brott och trygghet. Rapport från institutionen för kriminologi, Malmö högskola. Malmö University.
- Ivert, A. K., & Torstensson Levander, M. (2014). Adolescents' Perceptions of Neighbourhood Social Characteristics—Is There a Correlation with Mental Health? *Child Indicators Research*, 7(1), 177-192. doi:10.1007/s12187-013-9210-x
- Ivert, A. K., Torstensson Levander, M., & Mellgren, C. (2015). Den ojämlika ottryggheten. Stabilitet och förändring i bostadsområden över tid. *Socialvetenskaplig Tidskrift*, 22, 211-229.
- Janssen, H. J., Deković, M., & Bruinsma, G. J. (2014). Parenting and time adolescents spend in criminogenic settings: A between-and within-person analysis. *British Journal of Criminology*, 54(4), 551-567. doi:10.1093/bjc/azu032
- Janssens, A., Goossens, L., Van Den Noortgate, W., Colpin, H., Verschueren, K., & Van Leeuwen, K. (2015). Parents' and adolescents' perspectives on parenting: Evaluating conceptual structure, measurement invariance, and criterion validity. *Assessment*, 22(4), 473-489. doi:10.1177/1073191114550477
- Junger-Tas, J., & Marshall, I. H. (1999). The self-report methodology in crime research. *Crime and Justice*, 25, 291-367. doi:10.1086/449291
- Keijsers, L., Branje, S. J., Vandervalk, I. E., & Meeus, W. (2010). Reciprocal effects between parental solicitation parental control, adolescent disclosure and adolescent delinquency. *Journal of Research on Adolescence*, 20, 88-113. doi:10.1111/j.1532-7795.2009.00631.x
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology*, 36(3), 366-380. doi:10.1037/0012-1649.36.3.366

- Kerr, M., Stattin, H., & Trost, K. (1999). To know you is to trust you: Parents' trust is rooted in child disclosure of information. *Journal of Adolescence*, 22(6), 737-752. doi:10.1006/jado.1999.0266
- Kornhauser, R. R. (1978). *Social sources of delinquency: An appraisal of analytic models*. Chicago: University of Chicago Press.
- Laird, R. D., Criss, M. M., Pettit, G. S., Dodge, K. A., & Bates J. E. (2003). Parents' monitoring-relevant knowledge and adolescents' delinquent behavior: Evidence of correlated developmental changes and reciprocal influences. *Journal of Abnormal Psychology*, 36, 299-310. doi:10.1016/S0193-3973(99)80044-6
- Laird, R. D., Pettit, G. S., Dodge, K. A., & Bates, J. E. (1998). The social ecology of school-age child care. *Journal of Applied Developmental Psychology*, 19(3), 341-360. doi:10.1016/S0193-3973(99)80044-6
- Larson, R. W., Richards, M. H., Moneta, G., Holmbeck, G., & Duckett, E. (1996). Changes in adolescents' daily interactions with their families from ages 10 to 18: Disengagement and transformation. *Developmental Psychology*, 32(4), 744-754. doi:10.1037/0012-1649.32.4.744
- Larson, R. W., Richards, M. H., Sims, B., & Dworkin, J. (2001). How urban African American young adolescents spend their time: Time budgets for locations, activities, and companionship. *American Journal of Community Psychology*, 29(4), 565-597. doi:10.1023/A:1010422017731
- Le Blanc, M. (1997). A generic control theory of the criminal phenomenon: The structural and dynamic statements of an integrative multilayered control theory. In T. P. Thornberry (Ed.), *Developmental Theories of Crime and Delinquency*, (pp. 215-285). New Brunswick: Transaction Publishers.
- Le Blanc, M., & Loeber, R. (1998). Developmental criminology updated. In M. Tonry (Ed.), *Crime and justice* (vol. 23, pp. 115-198). Chicago: University of Chicago Press.
- Leatherdale, S. T., & Burkhalter, R. (2012). The substance use profile of Canadian youth: Exploring the prevalence of alcohol, drug and tobacco use by gender and grade. *Addictive Behaviors*, 37(3), 318-322. doi:10.1016/j.addbeh.2011.10.007
- Lee, B. J., & Yoo, M. S. (2015). Family, School, and Community Correlates of Children's Subjective Well-being: An International Comparative Study. *Child Indicators Research*, 8(1), 151-175. doi:10.1007/s12187-014-9285-z
- Lerner, R. M., Rothbaum, F., Boulous, S., & Castellino, D. R. (2002). Developmental systems perspective on parenting. In M. H. Bornstein (Ed.), *Handbook of parenting* (2nd ed., vol. 2, pp. 315-344). Mahwah, NJ: Lawrence Erlbaum.
- Lindström, P. (1993). *School and delinquency in a contextual perspective*. National Council for Crime Prevention. Stockholm: Allmänna förlaget.

- Lippold, M. A., Greenberg, M. T., Graham, J. W., & Feinberg, M. E. (2014). Unpacking the effect of parental monitoring on early adolescent problem behavior: Mediation by parental knowledge and moderation by parent-youth warmth. *Journal of Family Issues*, 35(13), 1800-1823. doi: 10.1177/0192513X13484120
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen, & E. M. Hetherington (Eds.), *Handbook of child psychology* (4th ed., vol. 4, pp. 1-101). New York: Wiley.
- Martens, P. L. (1993). An ecological model of socialisation in explaining offending. In D. P. Farrington, R.J. Sampson, & P-O.H. Wikström (Eds.), *Integrating Individual and Ecological Aspects of Crime*, (pp. 109-151). Stockholm: National Council for Crime Prevention.
- Mason, C. A., Cauce, A. M., Gonzales, N., & Hiraga, Y. (1996). Neither too sweet nor too sour: Problem peers, maternal control, and problem behavior in African American adolescents. *Child Development*, 67, 2115-2130. doi:10.1111/j.1467-8624.1996.tb01847.x
- McGue, M., Elkins, I., Walden, B., & Iacono, W. G. (2005). Perceptions of the parent-adolescent relationship: A longitudinal investigation. *Developmental Psychology*, 41(6), 971-984. doi:10.1037/0012-1649.41.6.971
- Moffitt, T. E. (2006). Life-course-persistent versus adolescence-limited antisocial behavior. In D.J. Cichetti, & E. Cohen (Eds.), *Developmental Psychopathology* (pp. 570-598). New York: Wiley.
- Morizot, J., & Kazemian, L. (2015). Introduction: Understanding criminal and antisocial behavior within a developmental and multidisciplinary perspective. In J. Morizot, & L. Kazeiman (Eds.), *The development of criminal and antisocial behavior* (pp. 1-16). London: Springer.
- Mortimer, J. T., & Shanahan, M. J. (2007). *Handbook of the life course*. New York: Kluwer Academic Publishers.
- Mulvey, E. P. (2014). Using developmental science to reorient our thinking about criminal offending in adolescence. *Journal of Research in Crime and Delinquency*, 51(4), 467-479. doi: 10.1177/0022427814522249
- Noller, P., & Callan, V. J. (1988). Understanding parent-adolescent interactions: Perceptions of family members and outsiders. *Developmental Psychology*, 24(5), 707-714. doi:10.1037/0012-1649.24.5.707
- Nye, F. I. (1958). *Family relationships and delinquent behavior*. New York: Wiley.
- Osgood, D. W., & Anderson, A. L. (2004). Unstructured socializing and rates of delinquency. *Criminology*, 42(3), 519-550. doi:10.1111/j.1745-9125.2004.tb00528.x
- Patterson, C. J., Farr, R. H., & Hastings, P. D. (2015). Socialization in the context of family diversity. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization. Theory and research* (pp. 202-227). New York: Guilford Press.

- Patterson, G. R., Reid, J. B., & Dishion, T. J. (1998). Antisocial boys. In J. M. Jenkins, K. Oatley, & N. L. Stein (Eds.), *Human emotions: A reader* (pp. 330–336). Malden, MA: Blackwell.
- Piquero, A. R., Farrington, D. P., & Blumstein, A. (2003). The criminal career paradigm. *Crime and Justice*, 30, 359-506. doi:10.1086/652234
- Piquero, A. R., Macintosh, R., & Hickman, M. (2002). The validity of a self-reported delinquency scale comparisons across gender, age, race, and place of residence. *Sociological Methods & Research*, 30(4), 492-529. doi:10.1177/0049124102030004002
- Piquero, N. L., Gover, A. R., MacDonald, J. M., & Piquero, A. R. (2005). The influence of delinquent peers on delinquency: Does gender matter? *Youth & Society*, 36(3), 251-275. doi:10.1177/0044118X04265652
- Rebellon, C. J. (2012). Differential association and substance use: Assessing the roles of discriminant validity, socialization, and selection in traditional empirical tests. *European Journal of Criminology*, 9(1), 73-96. doi:10.1177/1477370811421647
- Reiss, A. J. (1951). Delinquency as the failure of personal and social controls. *American Sociological Review*, 16(2), 196-207.
- Ring, J. (2010). Brott bland ungdomar i årskurs nio. Brå-rapport 2010:6. Stockholm: Brottsförebyggande rådet.
- Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life*. Cambridge, Ma: Harvard University Press.
- Sampson, R. J., & Laub, J. H. (2005). A general age-graded theory of crime: Lessons learned and the future of life-course criminology. In D. P. Farrington (Ed.), *Integrated developmental and life-course theories of offending* (pp. 165-181). New Brunswick, NJ: Transaction.
- Sanches, C., Gouveia-Pereira, M., Marôco, J., Gomes, H., & Roncon, F. (2016). Deviant behavior variety scale: Development and validation with a sample of Portuguese adolescents. *Psicologia: Reflexão e Crítica*, 29, 1-8. doi:10.1186/s41155-016-0035-7
- Schaefer, E. S. (1965a). Children's reports of parental behavior: An inventory. *Child Development*, 36(2), 413-424.
- Schaefer, E. S. (1965b). A configurational analysis of children's reports of parent behavior. *Journal of Consulting Psychology*, 29(6), 552-557.
- Shanahan, L., McHale, S. M., Crouter, A. C., & Osgood, D. W. (2007). Warmth with mothers and fathers from middle childhood to late adolescence: Within- and between-families comparisons. *Developmental Psychology*, 43, 551 – 563.
- Shannon, D. (2006). Chronic offenders or socially disadvantaged youth? Institutionalized males as missing cases in school-based delinquency research. *Journal of Scandinavian Studies in Criminology and Crime Prevention*, 7(01), 78-100. doi:10.1080/14043850500512205

- Shearer, C. L., Crouter, A. C., & McHale, S. M. (2005). Parents' perceptions of changes in mother-child and father-child relationships during adolescence. *Journal of Adolescent Research*, 20(6), 662-684. doi:10.1177/0743558405275086
- Short, J. F., & Nye, F. I. (1957). Reported behavior as a criterion of deviant behavior. *Social Problems*, 5(3), 207-213. doi:10.2307/798962
- Silk, J. S., Morris, A. S., Kanaya, T., & Steinberg, L. (2003). Psychological control and autonomy granting: Opposite ends of a continuum or distinct constructs? *Journal of Research on Adolescence*, 13(1), 113-128. doi:10.1111/1532-7795.1301004
- Smetana, J., & Chuang, S. (2001). Middle-Class African American parents' conceptions of parenting in early adolescence. *Journal of Research on Adolescence*, 11(2), 177-198. doi:10.1111/1532-7795.00009
- Smetana, J. G., Robinson, J., & Rote, W. M. (2015). Socialization in adolescence. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization. Theory and research* (2nd ed., pp. 60-84). New York: The Guilford Press.
- Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006a). Adolescent development in interpersonal and societal contexts. *Annual Review of Psychology*, 57, 255-284. doi:10.1146/annurev.psych.57.102904.190124
- Smetana, J. G., Metzger, A., Gettman, D. C., & Campione-Barr, N. (2006). Disclosure and secrecy in adolescent-parent relationships. *Child Development*, 77(1), 201-217. doi:10.1111/j.1467-8624.2006.00865.x
- Snyder, J., Dishion, T. J., & Patterson, G. R. (1986). Determinants and consequences of associating with deviant peers during preadolescence and adolescence. *The Journal of Early Adolescence*, 6(1), 29-43. doi:10.1177/0272431686061003
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290-312. doi:10.2307/270723
- Soenens, B., Vansteenkiste, M., Luyckx, K., & Goossens, L. (2006). Parenting and adolescent problem behavior: An integrated model with adolescent self-disclosure and perceived parental knowledge as intervening variables. *Developmental Psychology*, 42(2), 305-318.
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development*, 71(4), 1072-1085. doi:10.1111/1467-8624.00210
- Stattin, H., Kerr, M., & Tilton-Weaver, L. (2010). Parental monitoring: A critical examination of the research. In P. Dittus, V. Guilamo-Ramos & J. Jaccard (Eds.), *Parental monitoring of adolescents* (pp. 3-38). New York: Columbia University Press.
- Stavriniades, P. (2011). The relationship between parental knowledge and adolescent delinquency: A longitudinal study. *International Journal about Parents in Education*, 5(1), 46-55.
- Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, 11(1), 1-19. doi:10.1111/1532-7795.00001

- Steinberg, L., & Silk, J. S. (2002). Parenting adolescents. In M. H. Bornstein (Ed.), *Handbook of parenting: Children and parenting* (vol. 1, pp. 103-133). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Steinberg, L., Fletcher, A., & Darling, N. (1994). Parental monitoring and peer influences on adolescent substance use. *Pediatrics*, 93(6), 1060-1064.
- Sullivan, C. J. (2014). Individual, social, and neighborhood influences on the launch of adolescent antisocial behavior. *Youth Violence and Juvenile Justice*, 12(2), 103-120. doi:10.1177/1541204013483779
- Svensson, R. (2003). Gender differences in adolescent drug use the impact of parental monitoring and peer deviance. *Youth & Society*, 34(3), 300-329. doi:10.1177/0044118X02250095
- Svensson, R. (2004). *Social control and socialisation: The role of morality as a social mechanism in adolescent deviant behaviour*. Stockholm: Almqvist & Wiksell International.
- Svensson, R., & Oberwittler, D. (2010). It's not the time they spend, it's what they do: The interaction between delinquent friends and unstructured routine activity on delinquency: Findings from two countries. *Journal of Criminal Justice*, 38(5), 1006-1014. doi:10.1016/j.jcrimjus.2010.07.002
- Svensson, R., & Pauwels, L. (2010). Is a risky lifestyle always “risky”? The interaction between individual propensity and lifestyle risk in adolescent offending: A test in two urban samples. *Crime & Delinquency*, 56(4), 608-626. doi:10.1177/0011128708324290
- Svensson, R., Pauwels, L., & Weerman, F. M. (2010). Does the effect of self-control on adolescent offending vary by level of morality? A test in three countries. *Criminal Justice and Behavior*, 37(6), 732-743. doi:10.1177/0093854810366542
- Svensson, R., Pauwels, L. J., Weerman, F. M., & Bruinsma, G. J. (2016). Explaining individual changes in moral values and moral emotions among adolescent boys and girls: A fixed-effects analysis. *European Journal of Criminology*, 1-19, doi:10.1177/1477370816649626
- Sweeten, G. (2012). Scaling criminal offending. *Journal of Quantitative Criminology*, 28(3), 533-557. doi:10.1007/s10940-011-9160-8
- Thornberry, T. P. (1987). Toward an interactional theory of delinquency. *Criminology*, 25(4), 863-892. doi:10.1111/j.1745-9125.1987.tb00823.x
- Thornberry, T. P., & Krohn, M. D. (2000). The self-report method for measuring delinquency and crime. *Criminal Justice*, 4(1), 33-83.
- Thornberry, T. P., Lizotte, A. J., Krohn, M. D., Farnworth, M., & Jang, S. J. (1994). Delinquent peers, beliefs, and delinquent behavior: A longitudinal test of interactional theory. *Criminology*, 32, 47-83. doi:10.1111/j.1745-9125.1994.tb01146.x
- Toby, J. (1974). The socialization and control of deviant motivation. In D. Glaser (Ed.), *Handbook of Criminology* (pp. 85-100). Indianapolis: Bobbs-Merrill Publishers.

- Trifan, T. A., Stattin, H., & Tilton-Weaver, L. (2014). Have authoritarian parenting practices and roles changed in the last 50 years? *Journal of Marriage and Family*, 76(4), 744-761. doi:10.1111/jomf.12124
- Tsai, K. M., Telzer, E. H., & Fuligni, A. J. (2013). Continuity and discontinuity in perceptions of family relationships from adolescence to young adulthood. *Child Development*, 84(2), 471-484. doi:10.1111/j.1467-8624.2012.01858.x
- Uhlenberg, P., & Mueller, M. (2003). Family context and individual well-being. In J. Mortimer, & M. Shanahan (Eds.), *Handbook of the life course* (pp. 123-148). New York: Springer.
- Uji, M., Sakamoto, A., Adachi, K., & Kitamura, T. (2014). The impact of authoritative, authoritarian, and permissive parenting styles on children's later mental health in Japan: Focusing on parent and child gender. *Journal of Child and Family Studies*, 23(2), 293-302. doi:10.1007/s10826-013-9740-3
- Urberg, K. A., Cheng, C., & Shyu, S. (1991). Grade changes in peer influence on adolescent cigarette smoking: A comparison of two measures. *Addictive Behaviors*, 16, 21-28. doi:10.1016/0306-4603(91)90036-H
- Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The Lancet*, 379, 1641-1652. doi:10.1016/S0140-6736(12)60149-4
- Warr, M. (1993). Parents, peers, and delinquency. *Social forces*, 72(1), 247-264. doi:10.2307/2580168
- Weerman, F. M., Bernasco, W., Bruinsma, G. J., & Pauwels, L. J. (2015). When is spending time with peers related to delinquency? The importance of where, what, and with whom. *Crime & Delinquency*, 61(10), 1386-1413. doi:10.1177/0011128713478129
- Weerman, F. M., Bernasco, W., Bruinsma, G. J., & Pauwels, L. J. (2016). Gender differences in delinquency and situational action theory: A partial test. *Justice Quarterly*, 33(7), 1182-1209. doi:10.1080/07418825.2015.1064987
- Weerman, F. M., & Smeenk, W. H. (2005). Peer similarity in delinquency for different types of friends: A comparison using two measurement methods. *Criminology*, 43(2), 499-524. doi:10.1111/j.0011-1348.2005.00015.x
- Weisskirch, R. S. (2009). Parenting by cell phone: Parental monitoring of adolescents and family relations. *Journal of Youth and Adolescence*, 38(8), 1123-1139. doi:10.1007/s10964-008-9374-8
- Wikström, P. O. H., & Butterworth, D. A. (2006). *Adolescent crime. Individual Differences and Lifestyles*. Cullompton, UK: Willan Publishers.
- Wikström, P. O. H., Oberwittler, D., Treiber, K., & Hardie, B. (2012). *Breaking rules: The social and situational dynamics of young people's urban crime*. Oxford: Oxford University Press.

- Wikström, P. O. H., & Sampson, R. J. (2003). Social mechanisms of community influences on crime and pathways in criminality. In B. Lahey, T. Moffitt & A. Caspi (Eds.), *Causes of conduct disorder and juvenile delinquency* (pp. 118-148). New York: The Guildford Press.
- Wikström, P. O. H., & Treiber, K. (2017). Beyond Risk Factors: An Analytical Approach to Crime Prevention. In B. Teasdale & Bradley M. S. Bradley (Eds.) *Preventing Crime and Violence* (pp. 73-87). Cham, Switzerland: Springer International Publishing.
- Wong, T. M., Slotboom, A. M., & Bijleveld, C. C. (2010). Risk factors for delinquency in adolescent and young females: A European review. *European Journal of Criminology*, 7, 266-284. doi:10.1177/1477370810363374
- Young, J. T., Rebellon, C. J., Barnes, J. C., & Weerman, F. M. (2015). What do alternative measures of peer behavior tell us? Examining the discriminant validity of multiple methods of measuring peer deviance and the implications for etiological models. *Justice Quarterly*, 32(4), 626-652. doi:10.1080/07418825.2013.788730

ORIGINAL PAPERS I-IV

I

Analyzing Gender Differences in the Relationship between Family Influences and Adolescent Offending among Boys and Girls

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Abstract The aim of this paper is to examine gender differences in several dimensions of family-related variables in the explanation of adolescent offending. Analyses are conducted to examine: 1) whether boys and girls differ in levels of offending and in levels of family variables respectively, 2) whether the correlations between family variables and offending differ by gender, and 3) whether the family variables explain gender differences in adolescent offending. The study employs self-report data from a sample of young adolescents in Halmstad, Sweden ($N = 889$). The findings show that boys offend more than girls and that there are clear differences in both levels of the family variables and in the associations between the different family variables and offending. The findings also show that the family variables cannot explain gender differences in offending. The findings in this study are not only relevant theoretically, they also have important policy implications.

Keywords Adolescent offending · Gender differences · Family influences · Social bonding

1 Introduction

There is strong evidence that the family environment has a major influence on the present and future development of children's behavior and well-being. These findings have been presented across different cultures, contexts and countries (see e.g., Lee and Yoo 2015; Viner et al. 2012). A substantial amount of research aimed at explaining gender differences in young people's well-being and in unhealthy behaviors, such as adolescent

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offending, has looked to the family situation for explanations (e.g., Levin et al. 2012; Worthen 2011).

When it comes to adolescent offending, it is well established that girls present lower levels of offending in both official statistics and self-report data (e.g., Moffitt et al. 2001; Smith 2014; Weerman et al. 2015). Even though the family has repeatedly been identified as an important factor in the understanding of offending among both boys and girls (e.g., Hoeve et al. 2009; Junger-Tas et al. 2004; Kruttschnitt and Giordano 2009), studies focused on gender differences in the relationship between the family and adolescent offending have produced inconsistent findings. It is unclear whether the same family variables can explain the offending of boys and girls respectively and also whether family influences have a different significance for boys and girls (Hoeve et al. 2009, 2012; Wong et al. 2010).

Within this field of research, most previous studies have focused on measures of attachment to parents and/or parental monitoring, and there is a lack of studies that have also included additional variables. The current study therefore includes a range of family variables representing elements of family attachment that have to date not been included in a single analysis conducted for boys and girls. In relation to much of the research dealing with the family and adolescent offending, which is characterized by a unidimensional attached-unattached conception of family relationships for example, this study will contribute additional knowledge to our understanding of family influences on offending among boys and girls. It may be particularly relevant and interesting to study this issue in a Swedish context, where the gender gap in offending has declined over recent decades (Estrada et al. 2015), and where the family environment and parenting practices are often described as being democratic and characterized by gender equality (Ahlberg et al. 2008; Trifan et al. 2014).

2 Background

To begin with a presentation of the study's theoretical framework, the field of criminology contains numerous perspectives and theories that have been advanced in the study of gender differences in the relationship between the family and adolescent offending. However, the most commonly applied theory is Social bonding theory (Hirschi 1969). As is the case in all control theories, social bonding theory does not strive to explain offending per se, but rather to explain conformity. According to control theorists, controls or restraints are what keep individuals from offending (Hirschi 1969; Sampson and Laub 1993). In social bonding theory, Hirschi posits the social bonds as the source of social control and conformity, and presents four such controlling bonds that bind a person to society: *Attachment*, which refers to the affection and emotions an individual holds for significant others, *commitment* to conventional pursuits, *involvement* in conventional activities and *belief*, which refers to an individual's bonds to society. It is theorized that the propensity to commit crime increases when an individual's bonds to society are weakened or broken (Hirschi 1969).

This theory, with its focus on family-related constructs of relevance to the attachment between parent and child, will constitute the theoretical framework for the current study. Of the different elements described in social bonding theory, attachment is generally described as the most important. In particular, attachment to one's parents

has been shown to be one of the most essential controlling factors (Hirschi 1969). According to this theory, weak social ties to parents will increase the likelihood of adolescent offending, and one important reason for committing offences is that those with weak social ties feel that they have nothing to lose.

Attachments between parents and children manifest themselves on a number of different dimensions. However, all of these dimensions play a significant role when it comes to understanding the strength of the parent-child bond. For example, an attached child is used to sharing his or her life with parents (Hirschi 1969). Communication, but perhaps most importantly, the child's free disclosure of information to parents, has been identified as an indicator of a good parent-child relationship (Kerr and Stattin 2000). Hirschi (1969) also states that children who are attached to their parents are more likely to spend time in the presence of their parents. Further, troubled parent-child relationships, such as relationships characterized by many parent-child conflicts, may result in a variety of negative consequences, including the weakening of positive parent-child bonding, and adolescent offending (Choi et al. 2008). In the original statement of social bonding theory, attachments between parent and child, and their correlation with offending, were proposed to be universal with respect to gender (Hirschi 1969).

When it comes to empirical findings, it has been noted that girls overall present higher levels of family-related protective factors. For example, the social control of girls appears to be stronger and more intensive than is the case for boys, which would explain why girls' levels of offending are lower than those of boys (e.g., Junger-Tas et al. 2004; Svensson 2003; Weerman et al. 2015). In addition, the literature mainly shows that girls have stronger bonds with their parents (e.g., Svensson 2003), and that they disclose more information to their parents about their lives (e.g., Stattin and Kerr 2000). Girls also seem to spend more time at home, which is seen as a protective factor, mainly because it limits the opportunities for offending (Hirschi 1969). A similar explanation that has also been suggested is that girls' offending is less common as a result of them being less exposed to risk factors than boys (Fagan et al. 2007; Moffitt et al. 2001). In the literature, it has been suggested that boys spend more time with friends without adult supervision (Weerman et al. 2015; Weerman and Hoeve 2012), which has also been shown to be associated with offending (Svensson and Oberwittler 2010). Thus, less time spent with the family increases the likelihood of spending more time with friends (Warr 2005).

As regards gender differences in the correlations between family variables and adolescent offending, the results presented in previous research are somewhat more complicated and contradictory. Recurrent findings show that overall, weak family attachments are important correlates of offending for both boys than girls (e.g., Hoeve et al. 2009; Junger-Tas et al. 2004; Kruttschnitt and Giordano 2009). It has also been suggested that gender differences in a range of unhealthy adolescent behaviors, including for example the fact that boys present higher levels of aggressive behavior and violence than girls (Loeber et al. 2013; Weerman et al. 2015), arise because of differences between boys and girls in parental attachments (Mandara et al. 2012). However, even after reviewing the literature, it remains rather unclear whether boys and girls bond with their parents in the same way, or whether different dimensions of parent-child attachment have the same importance for behavioral outcomes, such as offending, for boys and girls respectively (see e.g. Hoeve et al. 2009, 2012).

Looking to research findings on the links between offending and different dimensions of family attachment among boys and girls, some studies have found that girls are more influenced by bonds to the family than boys (Alarid et al. 2000; Heimer and De Coster 1999) and that girls are more likely to bond with their parents in ways that prevent or preclude offending (Worthen 2011). By contrast, other studies have found parental attachment to have more of an influence on boys' offending (e.g., Anderson et al. 1999). Another group of researchers have found very few gender differences in the effects of family attachment on adolescent offending (Hubbard and Pratt 2002; Loeber and Stouthamer-Loeber 1986).

In the literature, girls' offending has more frequently been associated with openness towards parents (e.g., Wong et al. 2010), while boys' offending has more often been found to be associated with growing up in a single parent household. In addition, boys are generally more vulnerable to the negative influence of peers (Weerman and Hoeve 2012). When it comes to parental monitoring, a number of studies have found that poor parental monitoring has a similar effect for both boys and girls (Martens 1997). Other researchers, however, have found that the effect is stronger for boys than girls (Cernkovich and Giordano 1987), while still others have primarily found an association with boys' offending (e.g., Heimer and De Coster 1999). Conflicts between parents and children have been found to be associated with offending among both boys and girls (Wong et al. 2010).

In addition to the inconsistent findings described above, it is also important to consider some of the difficulties associated with the variables employed within this research field. The definitions and measurements of common variables have been shown to be far from straightforward; they vary across, and also within research fields. For example, as has been noted above, the most commonly used variables are different measures of attachment and parental monitoring (e.g. Chapple et al. 2005; Cota-Robles and Gamble 2006; Worthen 2011). However, the way these variables have been measured and defined, particularly monitoring, differs considerably between different studies (see Stattin and Kerr 2000). This not only makes it difficult to summarize and compare results, but it might also have implications for the results themselves. Hoeve et al. (2009) have suggested that the strength of the link between parenting and adolescent offending may be influenced by these difficulties. Chapple et al. (2005) have also argued that the inconsistent findings reported by the research may be a consequence of measurement problems.

Further, a substantial part of the research has analyzed different measures of social bonding and/or social control. Generally speaking, there is a strong tradition within this body of research of studying family relationships separately from parenting practices (Hoeve et al. 2009; Kerr and Stattin 2000). It is relatively unusual to find studies that include a variety of different variables in the same analysis. Worthen (2011), however, did include a variable measuring time spent with parents in addition to measures of both emotional attachment and parental monitoring. Moffitt et al. (2001) included a wide variety of variables in their study, and in addition to measures of attachment and monitoring, they also considered a number of variables that are more rarely employed, including for example harsh and inconsistent discipline. However, in the study in question, these different variables were measured at different ages, which might have implications for the results, since there is research showing that family variables produce larger effect sizes in samples of younger children as compared with samples

of older children (Hoeve et al. 2012). Altogether, there are indications that variations in measurement may help to account for some of the inconsistent results in this area.

In summary, much has been written about gender differences in the associations between different dimensions of family attachment and adolescent offending. It is recognized that the family is important for understanding offending among both boys and girls. It is also clear that different results have been presented within the field and that the constructs and measures employed differ across studies, which means that there is no consistent and straightforward answer to the question of how gender may affect the influence of dimensions of family attachments on adolescent offending. The findings are both inconsistent and scarce, and there is a need for studies to incorporate several different family variables in order to be able to better understand the dynamics that shape children's family environment and development (Fosco et al. 2012).

3 The Present Study

Against this background, the aim of this paper is to examine gender differences in several dimensions of family-related variables in the explanation of adolescent offending. Using the theoretical framework provided by social bonding theory, with a focus on the dimension of attachment between parent and child, the following family variables are included in the study: parental monitoring, conflict with parents, attachment to parents, child disclosure and time spent with friends. To our knowledge, no previous study has included all of these variables in the same analysis. Furthermore, the objective of the study is also to expand on prior research by including several dimensions of family-related variables in the analyses in order to provide a more nuanced presentation of the correlations between family influences and adolescent offending among boys and girls. Three research questions will be examined: 1) Do boys and girls differ in levels of offending and levels of family variables respectively? 2) Do the correlates of offending differ by gender? 3) Do family variables explain gender differences in adolescent offending?

4 Method

4.1 Sample

The study employs data from the Halmstad school survey (e.g., Pauwels and Svensson 2008; Svensson and Pauwels 2010; Svensson et al. 2010). Halmstad is a medium-sized city on the south-west coast of Sweden with approximately 90,000 inhabitants. As regards levels of income, unemployment, and educational achievement, the sample is comparable to the Swedish average. The Halmstad school survey included all students in their final year of compulsory education (M age = 15.14 years, age range: 14–16, $SD = 0.41$). The study constitutes a census of 1003 adolescents in 13 schools. In Halmstad, the headmaster of each school distributed the questionnaires with information about the study to teachers, and students completed the questionnaires during lesson time in the presence of the teacher. In line with Swedish recommendations on research ethics, the students answering the questionnaire were guaranteed complete

anonymity. Since self-report data are prone to the possibility of error through non-response, as well as the under-reporting and over-reporting of offending (e.g., Junger-Tas and Marshall 1999), each student was provided with an envelope in which to place the completed questionnaire in order to reduce the effects associated with these issues.

The non-response rate for the population was 15.2%. Following listwise deletion of missing values, the analyses presented below are based on 889 respondents. The Halmstad survey sample was comprised of 48.4% boys and 51.6% girls. Of the respondents, 74.2% had a completely native background (both parents from Sweden), 25.8% of the respondents had at least one parent with an immigrant background. A substantial majority of the respondents, 73.7% lived with two parents and 26.3% lived in a single parent family.

4.2 Measurement of Variables

4.2.1 Dependent Variable

Self-reported offending is measured by a scale that sums the respondents' offending across 14 offences. Students were asked to respond to each item independently and answered the following questions about how many times during the past year they had committed any of the following offences: shoplifting / stealing from school / bicycle theft / moped theft / car theft / theft from a car / burglary / robbery / hit someone hard / hurt someone with a knife / taken a knife with them as a weapon when going out / vandalism / tags / graffiti. The response alternatives for all of these items range from never – more than 10 times. The specific response scale options were: *never / once / 2–3 times / 4–5 times / 6–10 times / more than 10 times*. The scale has a Cronbach's alpha of .84 (boys: .86, girls: .74). High scores on the scale imply a high frequency of offending. Since there are potential problems as a result of the skewed nature of the crime variable, a transformed crime variable $\log(+1 \text{ value of offence frequency scale})$ has been used in the analyses. The lowest observation on this scale is 0, and the highest observation is 4 ($M = .87$; $SD = .99$). In this sample, 46.9% of the respondents reported not having committed any criminal offences in the course of the past year. A variety scale was also created in order to test the validity of the results. The same results were obtained using the variety scale as with the frequency-based offending scale, indicating that the results presented in the study may be considered robust. In this study, the transformed frequency scale is used for all analyses.

4.2.2 Independent Variables

Parental monitoring is an additive scale based on five items. The respondents were asked whether they: have a curfew when to be home in the evening / need to ask for permission when going out in the evening / have to call their parents if they are going to be late home / are required to say why if they come home later than they said they would / are asked about whom they are going to be hanging out with and what they will be doing when going out in the evening. The response alternatives for these items were: *no, never / quite seldom / sometimes / quite often / yes, always*. This scale has a Cronbach's alpha of .80 (boys: .77, girls: .79). A high score on the measure implies a

high level of parental monitoring. In this study, parental monitoring measures active monitoring by parents and not parental knowledge (see Stattin and Kerr 2000).

Conflict with parents is an additive scale based on the following two items: how often do you have disagreements or arguments with your parents? / how often do you purposely not talk to your parents because you are mad at them? The response alternatives for these items were: *never / very seldom / 1–2 times per week / 3–5 times per week / 6–7 times per week*. The two items are strongly correlated ($r = .65, p < .001$), and the Cronbach's alpha for the scale is .79 (boys: .71, girls: .81). A high score on the measure implies a high level of conflict between child and parent. These two items have been used in previous studies (e.g., Cernkovich and Giordano 1987).

Attachment to parents is an additive scale based on the mean values of the following five items which were asked in relation to the respondents' relationships with both mother and father respectively: do you feel your mother/father trusts you? / do you usually feel that your mother/father gives you support and encouragement? / do you think you have a good contact with your mother/father? / do you feel that your mother/father cares about you? / are you usually able to talk to your mother/father about everything (e.g. problems)? The response alternatives for these items were: *no, never / quite seldom / sometimes / quite often / yes, always*. When the respondent answered the items for both mother and father, the construct was considered as a joint entity. There were no separate questions for students not living with their mother and/or father. The Cronbach's alpha for this measure is .88 (boys: .86, girls: .90). A high score on the measure implies a high degree of attachment to parents. Similar items have been used in the literature (e.g., Kerr and Stattin 2000).

Child disclosure is an additive scale based on the following four items: Do you usually tell your parents: – which friends you hang out with? / – what you are up to when you are not at home? / – if you did something you regret? / – about how you are doing in school? The response alternatives for these items were: *no, never / quite seldom / sometimes / quite often / yes, always*. The measure has a Cronbach's alpha of .76 (boys: .75, girls: .77). A high score on the measure implies a high level of child disclosure. These items on child disclosure have previously been used by Martens (1997) for example. This measure refers to children's free disclosure of information about their activities, and has been identified as a primary source of parents' knowledge (see Kerr and Stattin 2000; Stattin and Kerr 2000).

Time spent with friends is measured using a single item. The respondents were asked how many evenings per week they usually hang out with their friends? The response alternatives were: *0/1/2/3/4/5/6/7 evenings per week*. A high score on the measure implies that the respondent spends a lot of time with friends. Mean score for boys: 3.72 evenings per week (SD: 1.76), mean score for girls: 3.41 evenings per week (SD: 1.86).

The *background variables* included in the study are gender, immigrant background and family structure. These background variables are assumed to be weakly correlated with offending when controls are included for family factors and most of their effect is assumed to be exerted indirectly via the family factors (e.g., Sampson and Laub 1993). *Gender* is coded as zero for boys and one for girls. *Immigrant background* is coded as zero when both parents are native Swedes, and as one if at least one of the parents was born abroad. *Family structure* is coded as zero if the respondent was living with two parents, and as one if the respondent was living in a single parent family.

Table 1 presents the correlations between the variables included in the study. The table suggests that several of the family variables are significantly related to offending in the expected direction for both boys and girls. However, immigrant background was not correlated with any of the other variables, with the exception of family structure among the girls, and will therefore not be included in the forthcoming regression analysis. There are no signs of multicollinearity, since the highest Variance of Inflation Factor score was 1.63, which is well below the acceptable threshold.

4.3 Analytic Strategy

The analysis was conducted in three stages. First, differences between boys and girls in levels of offending and on the family variables were tested by means of a *t*-test for independent samples. Cohen's *d* was used to calculate effect sizes (Cohen 1988). Second, two Ordinary Least Squares (OLS) regression analyses were conducted for boys and girls respectively. The aim of these analyses was to examine whether the relationships between the family variables and offending differ between boys and girls. A significance test was conducted to determine whether there were significant differences in the size of the coefficients between boys and girls in relation to the family variables (see Paternoster et al. 1998). Third, four OLS regression analyses were estimated in order to examine whether the family variables explain gender differences in adolescent offending. The Bonferroni correction is applied in order to avoid Type I errors due to multiple comparisons (Mundfrom et al. 2006).

5 Results

5.1 Do Boys and Girls Differ in Offending and in Levels of Family Variables?

The first stage of the presentation compares offending among boys and girls. The results indicate that boys are more involved in criminal activities than girls (see Table 2).

Table 1 Correlation matrix by gender, girls (*n* = 459) above and boys (*n* = 430) below

Variables	1.	2.	3.	4.	5.	6.	7.	8.
1. Immigrant background		.13**	.04	-.08	-.09	-.00	-.05	.10
2. Family structure	-.00		-.12	.11	-.22***	-.04	.20***	.11
3. Parental monitoring	.06	-.05		-.06	.14**	.26***	-.20***	-.18***
4. Conflict with parents	-.03	.05	-.00		-.53***	-.41***	.21***	.24***
5. Attachment to parents	-.04	-.20***	.15**	-.35***		.55***	-.19***	-.33***
6. Child disclosure	.01	-.01	.36***	-.27***	.40***		-.19***	-.29***
7. Time spent with friends	-.04	-.05	-.21***	-.03	.06	-.16***		.39***
8. Offending (log + 1)	.04	.19***	-.15***	.23***	-.19***	-.29***	.28***	

* $p < .05$. ** $p < .01$. *** $p < .001$

Table 2 Gender differences in level of family dimension and offending

Variable	Boys	Girls	t Test ^a	es ^b
Parental monitoring (5–25)				
M	16.71	19.30	-8.93***	0.60
SD	4.43	4.18		
Conflict with parents (2–10)				
M	4.43	5.30	-8.00***	0.54
SD	1.44	1.76		
Attachment to parents (5–25)				
M	22.00	20.73	5.64***	0.38
SD	2.87	3.81		
Child disclosure (4–20)				
M	13.91	14.63	-3.28***	0.22
SD	3.30	3.21		
Time spent with friends (0–7)				
M	3.72	3.41	-2.50	0.17
SD	1.76	1.86		
Offending (log +1) (0–4)				
M	1.10	0.65	6.85***	0.47
SD	1.09	0.83		

^a Based on the Bonferroni method, threshold of significance, $p < .008$.

^b Effect size computed with Cohen's d (Cohen 1988). Small effects = .2; medium effects = .5; large effects = .8. NOTE: Min-max in parentheses. High score indicates high level of exposure to family dimension/offending

Among boys, 60.2% have been involved in criminal activity during the past year, compared to 46.4% of the girls ($\chi^2 = 17.04$, $p < .001$, $t = 6.85$, $p < .001$, Cohen's $d = .47$). The results also show significant gender differences for most of the offences examined. When the individual offence types are examined separately (table not presented), shoplifting emerges as the most commonly reported offence for both boys and girls, although boys reported a significantly higher level of involvement in shoplifting than girls ($t = 2.21$, $p < .001$). Boys were also significantly more involved in both vandalism ($t = 5.27$, $p < .001$) and theft ($t = 4.84$, $p < .001$), although the greatest gender difference is found in relation to assault offences ($t = 6.38$, $p < .001$).

Further, the results show that boys and girls differed significantly in their scores on most of the family variables. Boys reported significantly stronger attachments to parents than girls ($t = 5.64$, $p < .001$, Cohen's $d = .38$). Girls, on the other hand, reported significantly higher levels of parental monitoring ($t = -8.93$, $p < .001$, Cohen's $d = .60$), conflict with parents ($t = -8.00$, $p < .001$, Cohen's $d = .54$), and child disclosure ($t = -3.28$, $p < .001$, Cohen's $d = .22$). The scores on the time that boys and girls reported spending with friends did not differ significantly following the adjustment of the p -value in accordance with the Bonferroni method ($t = -2.50$, $p = .013$, Cohen's $d = .17$).

5.2 Do the Correlates of Adolescent Offending Differ by Gender?

Two OLS regression models were estimated to illuminate this question. Separate analyses were conducted for boys and girls in an effort to develop a more complete picture of possible gender-specific effects of the independent variables on self-reported offending. These findings are presented in Table 3. The analyses show some interesting results and important differences emerged, indicating several differences in the correlates of offending for boys and girls respectively. The results from Model 1 show that the family variable that is significantly associated with offending among the girls is attachment to parents. For boys, family structure, conflict with parents, and child disclosure are significantly associated with offending. The amount of variance explained by the model approaches 15% for both boys and girls.

In the second and final model, where time spent with friends is also included, the model show that for boys, family structure, conflict with parents, child disclosure and time spent with friends are significantly associated with adolescent offending. For girls, it is attachment to parents and time spent with friends. The effect of family structure is significantly greater for boys than for girls ($z = 3.17, p < .001$), as is the effect of conflict with parents ($z = 2.67, p < .01$). The effect of attachment to parents is significantly greater for girls than for boys ($z = 2.14, p < .05$). Following calculations to establish possible differences in the size of the coefficients, the effect of child disclosure was not significantly greater for boys than for girls ($z = -1.36$). Parental

Table 3 OLS multiple regression analysis predicting self-reported offending, by gender (unstandardised and standardised regression coefficient)

Predictors	Boys (<i>N</i> = 430)		Girls (<i>N</i> = 459)		z-value
	<i>b</i> ^a	Beta	<i>b</i> ^a	Beta	
Model 1					
Family structure	.44***	.17	.06	.03	2.64**
Parental monitoring	-.02	-.07	-.02	-.11	.00
Conflict with parents	.13***	.17	.04	.08	1.71
Attachment to parents	.01	.02	-.05***	-.21	2.20*
Child disclosure	-.07***	-.22	-.03	-.21	-1.70
R ²		.142		.147	
Model 2					
Family structure	.41***	.16	-.03	-.02	3.17***
Parental monitoring	-.01	-.03	-.01	-.06	.00
Conflict with parents	.14***	.18	.02	.04	2.67**
Attachment to parents	.01	.02	-.04***	-.20	2.14*
Child disclosure	-.06***	-.19	-.03	-.10	-1.36
Time spent with friends	.17***	.27	.14***	.31	.82
R ²		.212		.233	

* $p < .05$. ** $p < .01$. *** $p < .001$

^a Based on the Bonferroni method, threshold of significance, $p < .008$

monitoring was not correlated with offending for either boys or girls. The amount of variance explained by this model is 23.3% for girls, as compared with 21.2% for boys.

5.3 Do Family Variables Explain Gender Differences in Offending?

In a second multiple regression analysis (see Table 4), the aim was to examine whether the family variables are able to explain gender differences in adolescent offending. Gender is included as a predictor in the first model, where the results show that gender is significantly associated with offending, indicating that boys offend significantly more than girls. The amount of variance explained by gender is 5.1%.

In the other models, which include the family variables, the gender effect remains relatively unaffected and unchanged throughout. These results indicate that gender differences in adolescent offending are not dependent on, and therefore cannot be explained by, the family variables included in the study. The amount of variance explained in the fourth and final model is 23.8%.

6 Discussion and Conclusion

In the present study, the main results show that there are significant differences between boys and girls in the associations between the dimensions of attachment and family interaction and offending. The findings also show that the study variables do not explain the gender gap in adolescent offending, indicating that gender continues to predict offending regardless of these variables.

Altogether, the findings in this study provide some support for social bonding theory (Hirschi 1969), showing that the impact of dimensions of parent-child attachment and interaction are important predictors of young people's offending. The findings also show that the total variance explained by these family influences is similar among boys and girls. However, the relative importance of the different family influences is not, showing that socialization processes do not seem to be universal across gender. This

Table 4 OLS multiple regression analysis predicting self-reported offending

Predictors	Model 1		Model 2		Model 3		Model 4	
	<i>b</i>	Beta	<i>b</i>	Beta	<i>b</i>	Beta	<i>b</i>	Beta
Gender (1 = girl)	-.45***	-.23	-.46***	-.23	-.47***	-.23	-.44***	-.22
Family structure			.32***	.14	.23**	.10	.17	.08
Parental monitoring					-.02	-.08	-.01	-.04
Conflict with parents					.08***	.13	.07***	.11
Attachment to parents					-.02	-.07	-.02	-.06
Child disclosure					-.05***	-.18	-.05***	-.16
Time spent with friends							-.15***	-.27
R ²	.051		.071		.173		.238	

Based on the Bonferroni method, threshold of significance, $p < .007$

indicates that, although these family dimensions are of general importance, there are likely to be important gender differences in the way that children bond with their parents, which in turn produce differential involvement in offending. Furthermore, the results of this study point to the importance of including multidimensional measures of relevance to the relationship between parent and child. This enables us to capture more specific distinctions and mechanisms that are important to an understanding of the gendered differences between family influences and adolescent offending.

The seemingly most important differences that emerged in the study indicate that there may be qualitative differences in experiences of and reactions to different aspects of family factors, and/or that boys and girls are susceptible to the different dimensions of relevance to parent-child attachment and interaction to a varying extent. We will clarify this reasoning with a few examples drawn from the results of the present study.

Girls report that they have more conflicts with their parents than boys, although having conflicts with parents was only found to be associated with offending for boys. Further, the girls reported being more closely monitored than the boys. These results need to be understood with reference to the period of adolescence, which, is characterized by aspirations for freedom and independence for example (Steinberg and Silk 2002; Grusec 2011). Bearing this in mind, previous research has shown that parents are generally more worried about their daughters than about their sons, and this has been argued to be an essential reason why girls are also more controlled by parents (Junger-Tas et al. 2004; Svensson 2004). It has also been argued that girls, as a result of this, tend to feel constrained by family ties (ibid.). This might be an explanation for, and may possibly account for part of, the higher levels of conflict with parents reported by girls in the present study. At the same time, a certain level of parent-child conflict in families with adolescents is seen as a necessary part of the process of establishing independence, and the occurrence of parent-child conflicts might not necessarily be defined as producing a negative socialization environment (Formoso et al. 2000).

Potential positive outcomes from certain levels of parent-child conflict, such as learning to manage and deal with conflicts, have been contrasted with the potential negative outcomes, such as the possibility that conflicts might reduce the level of secure parent-child bonding, for example, which would in turn be related to negative behavioral outcomes (Choi et al. 2008). The results of the present study might indicate that boys are more sensitive to the negative consequences of conflict. It has, however, been suggested that when parent-child conflict is considered simultaneously with other family processes, such as bonding with parents, the effect may no longer be significant (Hill et al. 2005). This might contribute a partial understanding of the results presented in this study, in which attachments to parents seem to produce a greater effect among girls than among boys, which is also in line with previous research findings (e.g., Heimer and De Coster 1999). It has been argued that the relationship to parents may have a stronger mediating influence on girls' offending because girls tend to place a higher value on their relationships during adolescence than boys (Junger-Tas et al. 2004). It has also been noted that girls, at the same time, tend to see their relationships with their parents in a less positive light than boys (ibid.). This might affect measures of social bonding and may have implications for the results produced, since it is possible that the measures and items employed in this study have different effects on the responses of boys and girls respectively (see Hagquist 2007).

Taken together, the results in this study indicate that the mechanisms of social bonding seem to operate in somewhat different ways in relation to boys and girls respectively. For example, the data suggest that for girls the bonding process may operate more effectively through attachment to parents, i.e. through emotional controls.

There are a number of limitations that should be noted in connection with the present study. First, although a number of family variables were included in the analyses, there remain a range of other family-related variables, for example permissive parenting-styles, parental neglect of the child and harsh or inconsistent discipline, that need to be examined more explicitly in order to provide additional nuance to our understanding of this issue. Second, only family variables were included in the study, which means that the study lacks a range of control variables that may be important in explaining the gender gap in adolescent offending, for example self-control. Third, the analyses were only conducted in relation to *parental* bonding, without distinguishing between the relationship with the mother and father respectively. This means that we cannot say anything about differences in levels or about effects on adolescent offending with regard to maternal versus paternal bonding. Fourth, since the data employed in the study are cross-sectional, the study focuses on correlations between family variables and offending among boys and girls. It is not possible to address the issue of temporal causal order. Nor is it possible to say anything about changes in these relationships over time. Fifth, since the results are based on self-report data, this has potential implications for the results that it is important to be aware of. For example, when it comes to adolescents' perceptions of parenting behavior and parent-child relations, it has been suggested that adolescents tend to report lower levels of e.g. monitoring than their parents (Abar et al. 2015). However, a strong parent-child bond might still be more important when it comes to behavioral outcomes, since this may divert from young persons' perceptions of parenting behavior.

As regards future research, there is a need to further explore these gender differences on different dimensions that are of relevance for parent-child attachment and also what produces these gendered differences. Socialization patterns within the family need to be analyzed together with individual aspects and structural contexts, such as maturity and gender expectations, for example, in order to produce a more comprehensive picture of this issue. To be able to explain the gender gap in adolescent offending to a greater extent, additional explanatory factors need to be considered, such as school, peers, moral values and self-control, for example. In addition, research within this field could benefit from studying adolescent online activity, since interactions afforded by social media are central to the current generation of adolescents. This could, for example, contribute to a better understanding of *how* time at home is spent. Previous research indicates that girls spend more time on social networking sites and use them more actively than boys (Nesi and Prinstein 2015). This could indicate that even though girls seem to spend more time at home (which is generally seen as a protective factor), they might spend a lot of this time on social media with friends. Findings on whether online activity is associated with negative and/or positive behavioral outcomes and/or well-being are mixed (ibid.). Further research using longitudinal data would also be able to fill several gaps that exist in the literature. For instance, relatively little is known about whether and how the link between family variables and adolescent offending changes over time for boys and girls respectively. There are good reasons to argue that differences in the influence of family on the offending of boys and girls may be

partially understood and explained by developmental differences between boys and girls; this is rarely discussed in the literature however.

In conclusion, this study contributes to the existing literature in several ways. For example, the results are not only indicative of real and important differences in the dynamics of patterns of family attachment among boys and girls, they also point to the importance of conducting more nuanced and detailed studies of the different elements of family attachments in order to be able to capture the gendered differences that exist. The findings are important not only in terms of their theoretical relevance, but also in terms of their policy implications, since this knowledge might be important for the development and improvement of family-focused intervention programs that target offending in youth.

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References

- Abar, C. C., Jackson, K. M., Colby, S. M., & Barnett, N. P. (2015). Parent-child discrepancies in reports of parental monitoring and their relationship to adolescent alcohol-related behaviors. *Journal of Youth and Adolescence*, 44, 1688–1701.
- Ahlberg, J., Roman, C., & Duncan, S. (2008). Actualizing the “democratic family”? Swedish policy rhetoric versus family practices. *Social politics: International studies in gender, state & society*, 15(1), 79–100.
- Alarid, L., Burton, V., & Cullen, F. (2000). Gender and crime among felony offenders: assessing the generality of social control and differential association theories. *Journal of Research in Crime and Delinquency*, 37, 171–199.
- Anderson, B. J., Holmes, M. D., & Ostresh, E. (1999). Male and female delinquents’ attachments and effects of attachments on severity of self-reported delinquency. *Criminal Justice and Behavior*, 26, 435–451.
- Cernkovich, S. A., & Giordano, P. C. (1987). Family relationships and delinquency. *Criminology*, 25, 295–321.
- Chapple, C. L., McQuillan, J. A., & Bergdahl, T. A. (2005). Gender, social bonds, and delinquency: a comparison of boys’ and girls’ models. *Social Science Research*, 34, 357–383.
- Choi, Y., He, M., & Harachi, T. W. (2008). Intergenerational cultural dissonance, parent- child conflict and bonding, and youth problem behaviors among Vietnamese and Cambodian immigrant families. *Journal of Youth and Adolescence*, 37, 85–96.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cota-Robles, S., & Gamble, W. (2006). Parent-adolescent processes and reduced risk for delinquency: the effect of gender for Mexican American adolescents. *Youth and Society*, 37, 375–392.
- Estrada, F., Bäckman, O., & Nilsson, A. (2015). The darker side of equality? The declining gender gap in crime: historical trends and an enhanced analysis of staggered birth cohorts. *British Journal of Criminology*, 1–19.
- Fagan, A. A., Van Horn, M. L., Hawkins, J. D., & Arthur, M. W. (2007). Gender similarities and differences in the association between risk and protective factors and self-reported serious delinquency. *Prevention Science*, 8(2), 115–124.
- Formoso, D., Gonzales, N. A., & Aiken, L. S. (2000). Family conflict and children’s internalizing and externalizing behavior: protective factors. *American Journal of Community Psychology*, 28, 175–199.
- Fosco, G. M., Stormshak, E. A., Dishion, T. J., & Winter, C. (2012). Family relationships and parental monitoring during middle school as predictors of early adolescent problem behavior. *Journal of Clinical Child & Adolescent Psychology*, 41, 202–213.
- Grusec, J. E. (2011). Socialization in processes in the family: social and emotional development. *Annual Review of Psychology*, 62, 243–269.

- Hagquist, C. (2007). Psychometric properties of the PsychoSomatic problems scale: a Rasch analysis on adolescent data. *Social Indicators Research*, 86, 511–523.
- Heimer, K., & De Coster, S. (1999). The gendering of violent delinquency. *Criminology*, 37, 277–317.
- Hill, K. G., Hawkins, J. D., Catalano, R. F., Abbott, R. D., & Guo, J. (2005). Family influences on the risk of daily smoking initiation. *Journal of Adolescent Health*, 37, 202–210.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Hoeve, M., Dubas, J. S., Eichelsheim, V. I., Van der Laan, P. H., Smeenk, W. H., & Gerris, J. R. M. (2009). The relationship between parenting and delinquency: a meta-analysis. *Journal of Abnormal Child Psychology*, 37, 749–775.
- Hoeve, M., Stams, G. J. J. M., Van der Put, C. E., Dubas, J. S., Van der Laan, P. H., & Gerris, J. R. M. (2012). A meta-analysis of attachment to parents and delinquency. *Journal of Abnormal Child Psychology*, 40, 771–785.
- Hubbard, D. J., & Pratt, T. C. (2002). A meta-analysis of the predictors of delinquency among girls. *Journal of Offender Rehabilitation*, 34, 1–13.
- Junger-Tas, J., & Marshall, I. H. (1999). The self-report methodology in crime research. In M. Tonry (Ed.), *Crime and justice: a review of research* (Vol. 25, pp. 291–367). Chicago: University of Chicago Press.
- Junger-Tas, J., Ribeaud, D., & Cruyff, M. J. L. F. (2004). Juvenile delinquency and gender. *European Journal of Criminology*, 1, 333–375.
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: further support for a reinterpretation of monitoring. *Developmental Psychology*, 36, 366–380.
- Krutttschnitt, C., & Giordano, P. (2009). Family influences on girls' delinquency. In M. A. Zahn (Ed.), *The delinquent girl* (pp. 107–126). Philadelphia: Temple University Press.
- Lee, B. J., & Yoo, M. S. (2015). Family, school, and community correlates of Children's subjective well-being: an international comparative study. *Child Indicators Research*, 8(1), 151–175.
- Levin, K. A., Dallago, L., & Currie, C. (2012). The association between adolescent lifesatisfaction, family structure, family affluence and gender differences in parent–childcommunication. *Social Indicators Research*, 106(2), 287–305.
- Loeber, R., & Stouthamer-Loeber, M. (1986). Family factors as correlates and predictors of juvenile conduct problems and delinquency. In M. Tonry & N. Morris (Eds.), *Crime and justice: an annual review of research* (Vol. 7, pp. 29–149). Chicago: University of Chicago Press.
- Loeber, R., Capaldi, D. M., & Costello, E. (2013). Gender and the development of aggression, disruptive behavior, and delinquency from childhood to early adulthood. *Disruptive Behavior Disorders*, 1, 137–160.
- Mandara, J., Murray, C. B., Telesford, J. M., Varner, F. A., & Richman, S. B. (2012). Observed gender differences in African American mother-child relationships and child behavior. *Family Relations*, 61(1), 129–141.
- Martens, P. L. (1997). Parental monitoring and deviant behavior among juveniles. *Studies on Crime and Crime Prevention*, 6, 224–244.
- Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2001). *Sex differences in antisocial behaviour: conduct disorder, delinquency, and violence in the Dunedin longitudinal study*. New York: Cambridge University Press.
- Mundfrom, D. J., Perrett, J. J., Schaffer, J., Piccone, A., & Roozeboom, M. (2006). Bonferroni adjustments in tests for regression coefficients. *Multiple Linear Regression Viewpoints*, 32, 1–6.
- Nesi, J., & Prinstein, M. J. (2015). Using social media for social comparison and feedback-seeking: gender and popularity moderate associations with depressive symptoms. *Journal of Abnormal Child Psychology*, 43(8), 1427–1438.
- Paternoster, R., Brame, R., Mazerolle, P., & Piquero, A. R. (1998). Using the correct statistical test for the equality of regression coefficients. *Criminology*, 36, 859–866.
- Pauwels, L., & Svensson, R. (2008). How serious is the problem of item nonresponse in delinquency scales and aetiological variables? A cross-national inquiry into two classroom PAPI self-report studies in Antwerp and Halmstad. *European Journal of Criminology*, 5, 289–308.
- Sampson, R. J., & Laub, J. (1993). *Crime in the making: pathways and turning points through life*. Cambridge: Harvard University Press.
- Smith, G. (2014). Long-Term Trends in Female and Male Involvement in Crime. In R. Gartner & B. McCarthy (Eds.), *The Oxford Handbook of Gender, Sex, and Crime*, 139–157. Oxford University Press.
- Stattin, H., & Kerr, M. (2000). Parental Monitoring: A Reinterpretation. *Child Development*, 71, 1072–1085.
- Steinberg, L., & Silk, J. S. (2002). Parenting adolescents. In M. H. Bornstein (Ed.), *Handbook of parenting: children and parenting* (Vol. 1, pp. 103–133). Mahwah: Lawrence Erlbaum Associates, Inc..

- Svensson, R. (2003). Gender differences in adolescent drug use: the impact of parental monitoring and peer deviance. *Youth and Society*, 34, 300–329.
- Svensson, R. (2004). Shame as a consequence of the parent-child relationship: a study of gender differences in juvenile delinquency. *European Journal of Criminology*, 1, 477–504.
- Svensson, R., & Oberwittler, D. (2010). It's not the time they spend, it's what they do: the interaction between delinquent friends and unstructured routine activity on delinquency. Findings from two countries. *Journal of Criminal Justice*, 38, 1006–1014.
- Svensson, R., & Pauwels, L. (2010). Is a risky lifestyle always “risky”? The interaction between individual propensity and lifestyle risk in adolescent offending: a test in two urban samples. *Crime and Delinquency*, 56, 608–626.
- Svensson, R., Pauwels, L., & Weerman, F. M. (2010). Does the effect of self-control on adolescent offending vary by level of morality?: a test in three countries. *Criminal Justice and Behavior*, 37, 732–743.
- Trifan, T. A., Stattin, H., & Tilton-Weaver, L. (2014). Have authoritarian parenting practices and roles changed in the last 50 years? *Journal of Marriage and Family*, 76(4), 744–761.
- Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The Lancet*, 379, 1641–1652.
- Warr, M. (2005). Making delinquent friends: adult supervision and children's affiliations. *Criminology*, 43, 77–106.
- Weerman, F. M., & Hoeve, M. (2012). Peers and delinquency among girls and boys: are sex differences in delinquency explained by peer factors? *European Journal of Criminology*, 9, 228–244.
- Weerman, F. M., Bemasco, W., Bruinsma, G. J., & Pauwels, L. J. (2015). Gender differences in delinquency and situational action theory: a partial test. *Justice Quarterly*, 33, 1–28.
- Wong, T. M., Slotboom, A.-M., & Bijleveld, C. C. (2010). Risk factors for delinquency in adolescent and young females: a European review. *European Journal of Criminology*, 7, 266–284.
- Worthen, M. G. F. (2011). Gender differences in parent-child bonding: implications for understanding the gender gap in delinquency. *Journal of Crime and Justice*, 34, 3–23.

III

Parents' Monitoring-Relevant Knowledge, Involvement with Deviant Peers and Substance Use: Time-Variant and Long-Term Associations among Adolescents Aged 12-17

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Abstract

With longitudinal data, drawn from the Malmö Individual and Neighbourhood Development Study (MINDS), time-variant and long-term associations between parents' monitoring-relevant knowledge, involvement with deviant peers and substance use are examined among a sample of 190 adolescents followed from 12 to 17 years of age. The main results show that parents knowing where their children are, what they are doing, and whom they are with, is beneficial in providing protection against involvement with deviant peers, which in turn appear to be important to the development of substance use. These results apply to both time-variant and long-term associations.

Keywords: deviant peers, longitudinal study, parents' monitoring-relevant knowledge, substance use

1. Introduction

Relationships with parents and peers have long been recognized as central elements of the adolescent experience and in the field of criminological research, parents and peers are well known to be two of the most important social influences when it comes to explaining deviant behavior during adolescence (e.g. Smetana, Champione-Barr, & Metzger, 2006; Thornberry & Krohn, 2005; Van Ryzin, Fosco, & Dishion, 2012). Adolescence, however, is a period that involves numerous changes at both the individual and social levels (Steinberg & Silk, 2002; Smetana et al., 2006; Mulvey, 2014), and the locus of interaction and social influence generally shifts from the family to peer networks during this period of life (e.g. Henry, Tolan, & Gorman-Smith, 2001). In the area of criminological theory, most theorists are not explicit about whether the effects of their key variables vary over the course of adolescence, and most studies employ cross-sectional designs. However, there has been an increase in the number of criminological studies based on a developmental perspective and this (multidisciplinary) perspective is becoming more influential (Morizot & Kazemian, 2015). The importance of the developmental perspective in criminology is linked to the idea that the etiological factors that affect delinquency and other deviant behaviors may vary across different developmental periods in the life course (Le Blanc & Loeber, 1998; Piquero, Farrington, & Blumstein, 2003).

One important change that occurs during the period of adolescence is that individuals' activities, interests, and peer groups usually change and expand, and more time is generally spent away from direct adult supervision (e.g. Laird et al., 1998; Sullivan, 2013). As a consequence, parents shift from direct supervision to more distal forms of monitoring in order to obtain information. One central construct that captures how well parents are able to keep track of what their children are up to is parental knowledge. In the literature, a strong and consistent link has been established between parents' monitoring-relevant knowledge and risky behaviors among youth (for a review see Crouter & Head, 2002). A lack of knowledge is associated with both a higher level of substance use and a greater risk of being involved with, and influenced by, deviant peers (Barnes et al., 2006; Laird et al., 2008; Veronneau & Dishion, 2010). Several studies provide evidence that the association between adolescent and peer deviant behavior (e.g. substance use) is stronger when parents are less aware of their adolescents' activities (Dishion et al., 1995; Rai et al., 2003; Wood et al., 2004). Even when controlling for a broad array of possible confounding variables, parents' monitoring-relevant knowledge remains an important protective factor in relation to youth development (Lippold, Greenberg, & Collins, 2014).

Over the past decade, scholars have explored a variety of possible links between parent and peer influences and their associations with adolescent behavior as these relationships develop over the course of adolescence. In research

studying time-varying effects of parents and peers, the results are mixed (see Jang, 1999). On one hand, it has been suggested that the significance of parent and peer influences in the explanation of different forms of deviant behavior varies across different stages of adolescence (e.g. Van Ryzin et al., 2012; Worthen, 2012). There are studies indicating that while parents are most influential during early adolescence, the influence of friends becomes much greater during middle and late adolescence (Ingram et al., 2007; Warr, 2005; Worthen, 2012). On the other hand, there is research suggesting that even though peers become more important as young people reach adolescence, they do not displace parents as sources of influence on teenage behavior (Brown & Bakken, 2011). In research integrating parenting and peer influences into a broader framework to explain adolescent behavior, peer factors are often modeled as mediators between family factors and the outcome of interest. In most cases, the mediating variable is the degree of association with deviant peers (Brown & Bakken, 2011). Also, results on how these variables are related to, and the ways in which they affect, substance use are mixed. For example, some studies support the notion that parenting affects adolescent substance use both directly and through the way it may promote the influence of deviant peers (Dishion et al., 1995). Further, while some researchers have found that the family environment and parenting exert an indirect effect on substance use, which works via association with deviant peers (Nash, McQueen, & Bray, 2005; Oxford et al., 2001), others have failed to find such mediating effects (Buehler, 2006).

Longitudinal work studying family and peer influences on deviant behavior indicates that effective monitoring-relevant strategies by parents early in a child's life are related to the development of fewer behavioral problems in adolescence (Gardner, Sonuga-Barke, & Sayal, 1999; Van Ryzin et al., 2012). For example, poor monitoring and family attachment during preadolescence have been found to have an enduring effect on drug use during adolescence (Brook & Cohen, 1992; Chilchoat & Anthony, 1996).

Against this background, longitudinal data relating to adolescents from 12 to 17 years of age will here be examined in order to address the issue of potential time-variant and long-term associations between parents' monitoring-relevant knowledge, involvement with deviant peers and substance use. The aim of the present study is to examine: 1) whether there are time-variant associations between parents' monitoring-relevant knowledge, involvement with deviant peers and substance use, 2) whether the association between monitoring-relevant knowledge and substance use involves an indirect effect that works via deviant peer affiliations and whether the strength of this mediation effect varies at different time-points, and 3) whether there are long-term associations between monitoring-relevant knowledge and later involvement with deviant peers and adolescent substance use.

2. Methods

2.1 Sample

The data employed in the study are drawn from the Malmö Individual and Neighbourhood Development study (MINDS), which was initiated in 2007. MINDS is a longitudinal research project with the goal of following a sample of adolescents born in 1995 (approximately 20 percent of the cohort) and living in Malmö in 2007, between the ages of 12 and 20. The total sample consists of 525 adolescents. The overall aim of the MINDS project is to contribute to a better understanding of the causes and prevention of young people's offending, but also to study how exposure to social settings affects other aspects of adolescent development and health. MINDS is modelled on the Peterborough Adolescent and Young Adult Development study (PADS+) conducted at Cambridge University's Institute of Criminology (Wikström et al., 2012), but some adjustments have been made to adapt the study to the specific aims of the MINDS project.

For the purposes of this study, multiple waves of data are required. The subsample employed in the current study is drawn from a data set focused on the parents who were interviewed in the initial phase of the study and whose children then participated in the following three waves of data collection. This final subsample, with data from both the parent and child surveys, consists of 190 parents and their children. Of this sample 52 percent are boys and 48 percent girls. Approximately 73 percent of the respondents had a completely native background (both parents from Sweden). 64 percent of the respondents lived with both of their parents and 35 percent lived in a single parent family. According to the parents' own reports, about 82 percent of the interviewed parents had a job, and of these, 74 percent were in full-time employment. 48 percent of the interviewed parents have university education (Note 1).

2.2 Procedure

The parent interviews comprised the first wave of data collection and were administered in the form of one-to-one interviews with a guardian of the child (154 mothers, and 36 fathers) conducted using an interviewer-led questionnaire. The parent interviews were conducted in 2007-2008 (when the children were 12-13 years old).

The adolescents' questionnaires were for the most part completed during regular school hours at sessions administered by trained research assistants. The respondents were informed that participation was voluntary, and they were assured

that their answers would not be revealed to their parents, teachers, or anyone else. Teachers were not present. The first wave of data collection with the adolescents was carried out in 2009-2010, at age 14-15 (hereafter referred to as T1), the second wave was carried out in 2010-2011, at age 15-16 (hereafter referred to as T2), and the third wave was conducted in 2011-2012, at age 16-17 (hereafter referred to as T3).

2.3 Measures

Adolescent substance use is measured using five items. The adolescents answered questions about whether they, over the course of the past year; had drunk alcohol until they became drunk / smoked cigarettes / tried snuff / tried sniffing (for example gas or glue) / tried drugs. The response alternatives for these items were: *No / yes, once or twice / yes, a times / yes many times / yes, very many times*. The resulting scale has an Alpha value of .64 at T1, .66 at T2, and .61 at T3. In the current sample, 41.6 percent of the adolescents had tried/used at least one of the substances listed above during the past year at T1, 61.6 percent at T2, and 68.9 percent at T3 (Note 2).

Parents' monitoring-relevant knowledge is an additive scale based on three items describing the parents', or the adolescents', perceptions of their parents' knowledge of the youth's whereabouts, activities, and peers (Note 3). The parents were asked if they knew; where their child hangs out in their free time (i.e. at a friend's house, in a park) / what their child does, alone or with friends, in his/her free time / which friends their child hangs out with in his/her free time. The adolescents were asked the same questions, but they were asked about whether their parents knew about their whereabouts, activities, and peers. The response alternatives for these items were: *Yes, always / yes, most of the time / yes, sometimes / no, never*. A high score on the measure implies a high level of parental knowledge. The alpha reliabilities for this three-item scale were .73 at the parent interviews, .76 at T1, .81 at T2, and .78 at T3. The adolescents in the sample reported that their parents generally knew a lot about their whereabouts, activities and peers. In the literature, there are a number of measurement issues which have clouded the distinction between parental knowledge of youth activities and parental attempts to monitor youth. The type of measure used in this study has often been labeled and interpreted as reflecting monitoring or supervision, indicating an *active* monitoring of children's activities on the part of parents (see Kerr and Stattin, 2000; Stattin and Kerr, 2000). The literature has also discussed *how* parents obtain this kind of information, i.e. whether it is freely disclosed to them by their children, or whether it is solicited by the parents themselves (see Kerr & Stattin, 2000). No information about how the parents obtained this information is available in the current study. Some studies have indicated that child disclosure constitutes the main source of parental knowledge (Stattin & Kerr, 2000). This makes it pertinent to ask what it is that leads children to voluntarily disclose information to their parents. The research contains studies which strongly indicate that child disclosure is based and dependent on the quality of the parent-child relationship (Crouter & Head, 2002; Fletcher, Steinberg, & Williams-Wheeler, 2004; Kerr & Stattin, 2000; Kerr, Stattin & Trost, 1999; Stattin & Kerr, 2000). Thus the monitoring-relevant knowledge of parents may be viewed as primarily constituting a measure of the nature of the parent-child relationship rather than as a measure of active monitoring or other behaviors on the part of parents.

Involvement with deviant peers: The adolescent respondents answered a series of items focused on patterns of substance use and antisocial behaviors among their friends (reflecting a general deviant peer process construct). The involvement with deviant peers variable is an additive scale based on six items. The respondents were asked whether some of their closest friends sometimes: skipped school / got drunk / used drugs (e.g. cannabis) and/or sniffed glue / shoplifted or stole from other people / vandalized things / got into fistfights (where someone got hurt). The response alternatives for these items were: *no, never / yes, sometimes / yes, quite often / yes, very often*. This scale has an Alpha level of .76 at T1, .79 at T2 and T3. A high score on the measure implies a high level of deviant peer affiliations.

There are no signs of multicollinearity between the study variables, since the highest variance inflation factor score was 2.43, which is below the acceptable threshold. The level of missing data is low, with at most eight missing cases (4.8 %) on one of the study variables (*Involvement with deviant peers* at T2).

2.4 Statistical Analyses

Initially, paired-samples T-tests were conducted in order to examine changes in mean levels of the variables between time-points. Zero-order correlations between all the study variables were obtained in order to examine bivariate relationships. To analyze the first research question, that of whether there are time-variant associations among the variables, a number of Ordinary Least Square (OLS) regression analyses were conducted separately for the three waves of data, focusing on both substance use and involvement with deviant peers as the outcome variables. In order to examine the second research question, that of the significance of possible indirect effects in these analyses, the study employed the Sobel method (Sobel, 1982). For the purpose of the third research question, a path analysis was specified and estimated in order to examine both the direct effects of parents' monitoring-relevant knowledge at T1 on substance use at T2 and T3, and the indirect effects of parents' monitoring-relevant knowledge at T1 on substance use at T2 and T3 via involvement with deviant peers at T2 and T3 and on substance use at T3 via prior substance use at T2. Model fit

was assessed by means of the chi-square (χ^2), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) measures (Note 4).

3. Results

3.1 Descriptive

All study variables showed significant changes in mean levels over time (see Table 1). The level of parents' monitoring-relevant knowledge decreased significantly from age 12 to 16. From age 16-17, the adolescents reported a small but significant increase in the level of parents' monitoring-relevant knowledge. The adolescents also reported significant increases in levels of both involvement with deviant peers and substance use from T1 to T3.

Table 1. Descriptive Statistics and T-Tests of Study Variables

Variable	Parents (age 12-13)				Time 1 (age 14-15)			
	Range	Mean	SD		Range	Mean	SD	t (DF)
Parental knowledge	2-9	7.49	1.45		0-9	6.07	1.98	9.15*** (187)
Deviant peers					0-15	2.61	2.68	
Substance use					0-11	1.43	2.31	
	Time 2 (age 15-16)				Time 3 (age 16-17)			
	Range	Mean	SD	t (DF)	Range	Mean	SD	t (DF)
Parental knowledge	1-9	5.70	1.96	3.48*** (181)	0-9	6.19	1.86	-3.67*** (181)
Deviant peers	0-16	3.20	2.66	-3.22** (178)	0-17	3.79	3.19	-2.90** (181)
Substance use	0-14	2.77	3.21	-9.13*** (189)	0-14	3.30	3.60	-3.37*** (181)

Description: High score on scales indicate high level of parental knowledge, high level of involvement with deviant peers, and high level of substance use. *t*-tests: T1 refers to changes in mean levels from parental interviews to T1. T2 refers to changes from T1, and T3 refers to changes from T2. * $p < .05$, ** $p < .01$, *** $p < .001$.

3.2. Bivariate Correlations

The bivariate correlations presented in Table 2 show that parents' reports of monitoring-relevant knowledge at age 12-13 were negatively and significantly correlated with both involvement with deviant peers and substance use at all other measurement points. Parental reports of their monitoring-relevant knowledge were positively and significantly correlated with monitoring-relevant knowledge at T1 and T2, but were uncorrelated with parents' monitoring-relevant knowledge at T3. Parents' monitoring-relevant knowledge at T1, T2 and T3 were negatively and significantly correlated with the adolescents' involvement with deviant peers and substance use at all measurement points, with the exception of parents' monitoring-relevant knowledge at T3, which was uncorrelated with either involvement with deviant peers or substance use at T1.

Involvement with deviant peers and substance use were positively and significantly correlated at all measure point, both within and between time-points. The strongest correlations, however, were between the same variables measured at different points, for example between substance use at T1 and T2 ($r = .78$), between substance use at T2 and T3 ($r = .81$), and between involvement with deviant peers at T2 and T3 ($r = .67$).

Table 2. Bivariate Correlations of Study Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Parental knowledge(P)									
2. Parental knowledge(T1)	.26***								
3. Deviant peers(T1)	-.25***	-.37***							
4. Substance use(T1)	-.25***	-.29***	.64***						
5. Parental knowledge(T2)	.25***	.65***	-.25***	-.19**					
6. Deviant peers(T2)	-.23**	-.40***	.64***	.59***	-.42***				
7. Substance use(T2)	-.30***	-.36***	.53***	.78***	-.36***	.68***			
8. Parental knowledge(T3)	.13	.48***	-.10	-.00	.52***	-.27***	-.16*		
9. Deviant peers(T3)	-.23***	-.30***	.53***	.38***	-.36***	.67***	.45***	-.36***	
10. Substance use(T3)	-.24***	-.40***	.50***	.66***	-.39**	.60***	.81***	-.24***	.51***

* $p < .05$, ** $p < .01$, *** $p < .001$

Overall, the results presented in Table 2 suggest that when parents are aware of where their children are, what they are doing, and with whom, adolescents are less likely to be involved with deviant peers or in substance use, while the higher level of adolescent involvement with deviant peers, the more likely these adolescents are to engage in substance use. These correlations between the study variables are significant both when measured at the same time point and when measured at different times.

3.3 Associations Between Study Variables by Time-Point

A number of OLS regression were conducted in order to analyze the relationship between parents' monitoring-relevant knowledge, involvement with deviant peers and substance use separately at T1, T2, and T3. In all waves of the data, parents' monitoring-relevant knowledge has a negative effect on substance use (T1: $\beta = -.29^{***}$; T2: $\beta = -.36^{***}$; T3: $\beta = -.24^{***}$). This indicates that the less parents know about where their children are, what they are doing and with whom, the more likely their children are to be using substances. However, when involvement with deviant peers is included in the models, the effect of parents' monitoring-relevant knowledge becomes weaker in all waves of the data. In each wave, parents' monitoring-relevant knowledge has a stronger effect on affiliations with deviant peers than on substance use. The highest proportion of the variance in substance use explained by a low level of parents' monitoring-relevant knowledge and involvement with deviant peers is found at T2 (47.9 %), while the lowest proportion of explained variance is found at T3 (26.7%).

In the mediation models, see Figure 1, the results are similar across all waves of the study. The direct effect of parents' monitoring-relevant knowledge on substance use is very small and non-significant in all waves. The association between parents' monitoring-relevant knowledge and involvement with deviant peers is stronger than between monitoring-relevant knowledge and substance use; however, across all waves of the study, the strongest correlation noted is that between involvement with deviant peers and substance use. The analyses show that 75.8 percent of the effect of monitoring-relevant knowledge on substance use was mediated through involvement with deviant peers at T1, 69.8 percent at T2, and 70.3 percent at T3. Sobel tests were conducted to test the significance of these indirect effects, with these showing that the mediation effects were significant at all times (T1; $z = -3.79^{***}$, T2; $z = -4.83^{***}$, T3; $z = -3.10^{***}$).

Figure 1. Associations between Study Variables by Time-Point.

Description: Standardized coefficients from OLS regression analysis testing associations between parents' monitoring-relevant knowledge, involvement with deviant peers and substance use separately for T1, T2 and T3. * $p < .05$, ** $p < .01$, *** $p < .001$.

3.4 Longitudinal Model of the study Variables

A path analysis was conducted to examine a longitudinal model of the study variables. As can be seen in Figure 2, high level of parents' monitoring-relevant knowledge at T1 were associated with a lower likelihood of involvement with deviant peers at T2, and also with lower levels of substance use at T3 (although this effect was only marginally significant). There were no significant direct pathways from parents' monitoring-relevant knowledge (T1) to substance use at T2 or involvement with deviant peers at T3. Predictions from T2 and T3 indicated continuity of substance use over time, as well as continuity of involvement with deviant peers over time (Note 5).

The analysis also shows that parents' monitoring-relevant knowledge was indirectly associated with substance use at T2 via involvement with deviant peers at T2. There was also a significant indirect path between parents' monitoring-relevant knowledge and substance use at T3 via involvement with deviant peers at T2 and T3.

These findings indicate that parents' monitoring-relevant knowledge is related to substance use in later adolescence. However, and perhaps more importantly, parents' monitoring-relevant knowledge seems to be an essential part of preventing children from associating with deviant peers, which seems to be instrumental in the development and

maintenance of substance use.

Figure 2. Longitudinal Model of the Study Variables.

Description: Standardized path coefficients testing associations between parents' monitoring-relevant knowledge at T1, involvement with deviant peers and substance use at T2 and T3. Model fit $\chi^2(2) = .037$, $p = .85$; CFI = 1.00; RMSEA = .00. * $p < .05$, ** $p < .01$, *** $p < .001$.

4. Discussion

The main results from this study shed light on the benefits produced by parents' knowing where their adolescents are, what they are doing, and whom they are with. This knowledge appears to be beneficial in providing protection against the emergence of risky influences, such as involvement with deviant peers, which in turn appear to be important to the development of substance use. These results apply to both time-variant and long-term associations.

While some of the results reported by the present study were to be expected, others are more of a surprise. The bivariate tests conducted by the study validate the nature of some of the expected associations among the study variables namely that youths whose parents have high levels of knowledge about their activities are less likely to be involved with deviant peers and to engage in substance use. Involvement with deviant peers increases the risk for substance use. The finding of significant changes in the mean levels of the study variables with increasing age was also expected. However, even though we would expect to find a decrease in the level of parental knowledge over time (e.g. Janssen, Dekovic, & Brunisma, 2014; Wikström et al., 2012), there has been some discussion about what such changes during adolescence in the patterns of parents' monitoring-relevant knowledge might mean. While some have argued that lower levels of monitoring-relevant knowledge might be an indication of parents granting their children more freedom and permitting greater autonomy (Steinberg & Silk, 2002), others have problematized this decrease in knowledge by noting that knowledge is actually increasingly important during this period, because adolescents spend more time away from home, and obtaining knowledge might be the most important way for parents to keep track of what their children are doing (Smetana et al., 2006).

When it comes to the time-varying effects, it was somewhat surprising that the influences of parents' monitoring-relevant knowledge and of involvement with deviant peers did not vary more over time, since previous studies have found that parents are usually more influential in the earlier stages of adolescence and that the influences of friends grow stronger from early to late adolescence (e.g. Warr, 1993; Worthen, 2012). In this study, the patterns found in relation to the influence of parents' monitoring-relevant knowledge and of involvement with deviant peers were similar in all three waves of the study, that is, the association between parents' monitoring-relevant knowledge and substance use was mediated via involvement with deviant peers. With the exception of this failure to find more variation in the nature of the associations between different social influences over time, there are a number of reasons why these results are not surprising per se. For example, during adolescence, peer factors typically dominate the predictive relationship when they are included in models alongside other predictors (Brook & Cohen, 1992; Steinberg, Fletcher, & Darling, 1994). In addition, since most adolescent substance use takes place within a peer social environment, peer influence is believed to have a proximal effect on substance use (Fletcher, Darling, & Steinberg, 1995). At the same time, the results of this study do show that the associations are time-variant to some degree, since the strongest effects were measured for all of the associations at T2, which indicates that adolescents are more susceptible to social

influences at age 15-16.

Further, the longitudinal path analysis indicates that parents' monitoring-relevant knowledge in early adolescence appears to shape the landscape for involvement with deviant peers and substance use in later adolescence. Parents' monitoring-relevant knowledge in earlier adolescence was found to be associated with substance use later on in adolescence in different ways, but mainly indirectly via involvement with deviant peers. Essentially, these results indicate that developing good parenting practices/relations at an early age, e.g. in the form of knowledge of one's children's whereabouts, activities, and peers, can protect youths from risky influences, most notably involvement with deviant peers.

A number of limitations associated with the current study should be noted. Although the sample is based on the reports of both parents and adolescents, the parent interviews were only conducted at one time, and it has therefore not been possible to analyze changes over time in parental reports nor in the correlations between child and parent reports. Further, the data in this study primarily rely on adolescent perceptions of their parents' monitoring-relevant knowledge and the deviant behavior of their peers. When it comes to adolescent perceptions of their peers, one important limitation that has been noted is that adolescent reports may overestimate the similarity between their own behavior and that of their peers (Aseltine, 1995; Urberg, Cheng, & Shyu, 1991). Further, no measures were included of how much time the adolescents spend with deviant friends or of whether the adolescents were in fact engaging in substance use in the company of their identified friends. Data of this kind on risk settings would add valuable information to the analysis. In addition, the study focused on a relatively short period of time, which may have implications for the results when viewed in relation to a developmental perspective. The focus on an age range that is for the most part restricted to middle adolescence may have led to an underestimation of the level of variability in parent and peer influences.

Despite these limitations, the present study also has a number of strengths and it contributes to the literature in several ways. For instance, the present study has a longitudinal design, and the study sample has been restricted to those individuals who have participated in every wave of the data collection process. Further, a developmental model is important when it comes to informing prevention and treatment programs, since the results from studies with a developmental focus may contribute important information regarding when to use prevention measures, whom interventions should be directed at, and which factors should be emphasized. Improved knowledge of the impact of various risk and protective factors at different stages of adolescence may therefore provide useful guidance for intervention efforts.

Overall, it appears that parents' monitoring-relevant knowledge can reduce the chances of negative relationships developing among youth; however, friends constitute strong models of deviant behavior. The findings indicate that family factors continue to be important predictors in the explanation of substance use during adolescence, even in the presence of peer factors. Therefore, although peer influences might be important targets for adolescent interventions, the risks produced by deviant peer-group affiliations might also be addressed by means of interventions with families.

References

- Aseltine, R. H. (1995). A Reconsideration of Parental and Peer Influences on Adolescent Deviance. *Journal of Health and Social Behavior*, 36, 103-121.
- Barnes, G., Hoffman, J., Welte, W., Farrell, M., & Dintcheff, B. (2006). Effects of parental monitoring and peer deviance on substance use and delinquency. *Journal of Marriage and Family*, 68, 1084-1104. <http://dx.doi.org/10.1111/j.1741-3737.2006.00315.x>
- Brook, J. S., & Cohen, P. (1992). A Developmental Perspective on Drug Use and Delinquency. In: *Facts, Frameworks, and Forecasts. Advances in Criminological Theory*. Ed: McCord, J. Transaction Publishers: New Brunswick, 3, 231-251.
- Brown, B. B., & Bakken, J. P. (2011). Parenting and Peer Relationships: Reinvigorating Research on Family-Peer Linkages in Adolescence. *Journal of Research on Adolescence*, 21, 153-165. <http://dx.doi.org/10.1111/j.1532-7795.2010.00720.x>
- Buehler, C. (2006). Parents and Peers in Relation to Early Adolescent Problem Behavior. *Journal of Marriage and Family*, 68, 109-124. <http://dx.doi.org/10.1111/j.17413737.2006.00237.x>
- Chilcoat, H. D., & Anthony, J. C. (1996). Impact of Parent Monitoring on Initiation of Drug Use Through Late Childhood. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35, 91-100. <http://dx.doi.org/10.1097/00004583-199601000-00017>
- Crouter, A., & Head, M. (2002). Parental knowledge and knowledge of children. In M. Bornstein (Ed.), *Handbook of parenting*, 3, 461-483. Mahwah, New Jersey: Lawrence Erlbaum.

- Dishion, T. J., Capaldi, D., Spracklen, K. M., & Li, F. (1995). Peer ecology of male adolescent drug use. *Development and Psychopathology*, 7, 803-824. <http://dx.doi.org/10.1017/S0954579400006854>
- Fletcher, A. C., Darling, N., & Steinberg, L. (1995). Parental Monitoring and Peer Influences on Adolescent Substance Use. In: *Coercion and Punishment in Long Term Perspectives*. Ed: McCord, J. Cambridge University Press. New York.
- Fletcher, A., Steinberg, L., & Williams-Wheeler, M. (2004). Parental Influences on Adolescent Problem Behavior: Revisiting Stattin and Kerr. *Child Development*, 75, 781-796. <http://dx.doi.org/10.1111/j.1467-8624.2004.00706.x>
- Gardner, F. E. M., Sonuga-Barke, E. J., & Sayal, K. (1999). Parents anticipating misbehavior: An observational study of strategies parents use to prevent conflict with behaviour problem children. *Journal of Child Psychology and Psychiatry*, 40, 1185-1196.
- Henry, D. B., Tolan, P. H., & Gorman-Smith, D. (2001). Longitudinal Family and Peer Group Effects on Violence and Nonviolent Delinquency. *Journal of Clinical Child Psychology*, 30, 172-186. http://dx.doi.org/10.1207/S15374424JCCP3002_5
- Ingram, J. R., Patchin, J. W., Huebner, B. M., McCluskey, J. D., & Bynum, T. S. (2007). Parents, Friends, and Serious Delinquency. An Examination of Direct and Indirect Effects Among At-Risk Early Adolescents. *Criminal Justice Review*, 32, 380-400. <http://dx.doi.org/10.1177/0734016807311436>
- Jang, S. J. (1999). Age Varying Effects of Family, School and Peers on Delinquency: Multilevel Modeling Test of Interactional Theory. *Criminology*, 37, 643-686. <http://dx.doi.org/10.1111/j.1745-9125.1999.tb00499.x>
- Janssen, H. J., Dekovic, M., & Brunisma, G. J. N. (2014). Parenting and time adolescents spend in criminogenic settings: a between- and within-person analysis. *British Journal of Criminology*, 54, 551-567. <http://dx.doi.org/10.1093/bjc/azu032>
- Keijsers, L., Branje, S. J., Vandervalk, I. E., & Meeus, W. (2010). Reciprocal effects between parental solicitation, parental control, adolescent disclosure and adolescent delinquency. *Journal of Research on Adolescence*, 20, 88-113. <http://dx.doi.org/10.1111/j.1532-7795.2009.00631.x>
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for the reinterpretation of monitoring. *Developmental Psychology*, 36, 366-380. <http://dx.doi.org/10.1037/0012-1649.36.3.366>
- Kerr, M., Stattin, H., & Trost, K., (1999). To know you is to trust you: parents' trust is rooted in child disclosure of information. *Journal of Adolescence*, 22, 737-752. <http://dx.doi.org/10.1006/jado.1999.0266>
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling* (2nd Edition ed.). New York: The Guilford Press.
- Laird, R. D., Criss, M. M., Pettit G. S., Dodge, K. A., & Bates J. E. (2008). Parents' monitoring knowledge attenuates the link between antisocial friends and adolescent delinquent behavior. *Journal of Abnormal Child Psychology*, 36, 299-310. <http://dx.doi.org/10.1007/s10802-007-9178-4>
- Laird, R. D., Criss, M. M., Pettit, G. S., Dodge, K. A., & Bates, J. E. (2003). Parents' monitoring-relevant knowledge and adolescents' delinquent behavior: Evidence of correlated developmental changes and reciprocal influences. *Journal of Abnormal Psychology*, 36, 299-310. <http://dx.doi.org/10.1111/1467-8624.00566>
- Laird, R. D., Pettit, G. S., Dodge, K. A., & Bates, J. E. (1998). The social ecology of school age child care. *Journal of Applied Developmental Psychology*, 19, 341-360. [http://dx.doi.org/10.1016/S0193-3973\(99\)80044-6](http://dx.doi.org/10.1016/S0193-3973(99)80044-6)
- Le Blanc, M., & Loeber, R. (1998). Developmental criminology updated. In M. Tonry (Ed.), *Crime and justice* (Vol. 23, pp. 115-198). Chicago: University of Chicago Press.
- Lippold, M. A., Greenberg, M. T., & Collins, L. M. (2014). Youth Substance Use and Changes in Parental Knowledge-Related Behaviors During Middle School: A Person-Oriented Approach. *Journal of Youth and Adolescence*, 43, 729-744. <http://dx.doi.org/10.1007/s10964-013-0010-x>
- Morizot, J., & Kazeiman, L. (2015) Introduction: Understanding Criminal and Antisocial Behavior Within a Developmental and Multidisciplinary Perspective. In J. Morizot & L. Kazeiman (Eds.). *The Development of Criminal and Antisocial Behavior: Theory, Research and Practical Applications* (pp.1-16). London: Springer.
- Mulvey, E. P. (2014). Using Developmental Science to Reorient Our Thinking About Criminal Offending in Adolescence. *Journal of Research in Crime and Delinquency*, 1-13. <http://dx.doi.org/10.1177/0022427814522249>
- Nash, S. G., McQueen, A., & Bray, J. H. (2005). Pathways to adolescent alcohol use: Family environment, peer

- influence, and parental expectations. *Journal of Adolescent Health*, 37, 19-28. <http://dx.doi.org/10.1016/j.jadohealth.2004.06.004>
- Oxford, M. L., Harachi, T. W., Catalano, R. F., & Abbott, R. D. (2001). Preadolescent predictors of substance initiation: A test of both the direct and mediated effect of family social control factors on deviant peer associations and substance initiation. *American Journal of Drug and Alcohol Abuse*, 27, 599-616. <http://dx.doi.org/10.1081/ADA-100107658>
- Piquero, A. R., Farrington, D. P., & Blumstein, A. (2003). The criminal career paradigm. *Crime and Justice: A Review of Research*, 30, 359-506.
- Rai, A. A., Stanton, B., Wu, Y., Li, X., Galbraith, J., & Cottrell, L., et al. (2003). Relative influences of perceived parental monitoring and perceived peer involvement on adolescent risk behaviors: An analysis of six cross-sectional data sets. *Journal of Adolescent Health*, 33, 108-118. [http://dx.doi.org/10.1016/S1054-139X\(03\)00179-4](http://dx.doi.org/10.1016/S1054-139X(03)00179-4)
- Smetana, J. G., Champione-Barr, N., & Metzger, A. (2006). Adolescent Development in Interpersonal and Societal Contexts. *Annual Review of Psychology*, 57, 255-84. <http://dx.doi.org/10.1146/annurev-psych.57.102904.190124>
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290-312.
- Stattin, H., & Kerr, M. (2000). Parental Monitoring: A Reinterpretation. *Child Development*, 71, 1072-1085. <http://dx.doi.org/10.1111/1467-8624.00210>
- Steinberg, L., & Silk, J. S. (2002). Parenting Adolescents. In M. H. Bornstein (ed.) *Handbook of Parenting: Children and Parenting*, Vol. 1, 103-33. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Steinberg, L., Fletcher, A., & Darling, N. (1994). Parental Monitoring and Peer Influences on Adolescent Substance Use. *Pediatrics*, 93, 1060-1064.
- Sullivan, C. J. (2013). Individual, social, and neighborhood influences on the launch of adolescent antisocial behavior. *Youth Violence and Juvenile Justice*, 12, 103-120. <http://dx.doi.org/10.1177/1541204013483779>
- Thornberry, T. P., & Krohn, M. D. (2005). Applying interactional theory to the explanation of continuity and change in antisocial behavior. In D. P. Farrington (Ed.), *Integrated developmental and life-course theories of offending* (pp. 183-209). New Brunswick, NJ: Transaction.
- Urberg, K. A., Cheng, C. H., & Shyu, S. J. (1991). Grade changes in peer influence on adolescent cigarette smoking: A comparison of two measures. *Addictive Behaviors*, 16, 21-28. [http://dx.doi.org/10.1016/0306-4603\(91\)90036-H](http://dx.doi.org/10.1016/0306-4603(91)90036-H)
- Van Ryzin, M. J., Fosco, G. M., & Dishion, T. J. (2012). Family and peer predictors of substance use from early adolescence to early adulthood: An 11-year prospective analysis. *Addictive Behaviors*, 37, 1314-1324. <http://dx.doi.org/10.1016/j.addbeh.2012.06.020>
- Veronneau, M. H., & Dishion, T. J. (2010). Predicting change in early adolescent problem behavior in the middle school years: A mesosystemic perspective on parenting and peer experiences. *Journal of Abnormal Psychology*, 38, 1125-1137. <http://dx.doi.org/10.1007/s10802-010-9431-0>
- Warr, M. (1993). Parents, Peers and Delinquency. *Social Forces*, 72, 247-264. <http://dx.doi.org/10.2307/2580168>
- Warr, M. (2005). Making delinquent friends: Adult supervision and children's affiliations. *Criminology*, 43, 77-106. <http://dx.doi.org/10.1111/j.0011-1348.2005.00003.x>
- Wikström, P. H., Oberwittler, D., Treiber, K., & Hardie, B. (2012). *Breaking rules: The social and situational dynamics of young people's urban crime*. Oxford: Oxford University Press.
- Wood, M. D., Read, J. P., Mitchell, R. E., & Brand, N. H. (2004). Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychology of Addictive Behaviors*, 18, 19-30.
- Worthen, M. G. F., (2012). Gender Differences in Delinquency in Early, Middle, and Late Adolescence: An Exploration of Parent and Friend Relationships. *Deviant Behavior*, 33, 282-307. <http://dx.doi.org/10.1080/01639625.2011.573421>

Notes

Note 1. The sample employed in this study is not fully representative of the city of Malmö, with both adolescents of foreign background and adolescents from the more disadvantaged areas of the city being somewhat underrepresented. When it comes to the variable measuring family composition (living with both parents / single parent family) the information is drawn from the parent interviews in the initial phase of the study.

Note 2. The frequencies for sniffing and drug use are weighted. Of those who reported that they had tried drugs (T1: 2.6 %; T2: 12.1 %; T3: 15.3 %), all had used cannabis. A majority of the adolescents did not engage in much substance use and the scale is skewed.

Note 3. This measure has been defined in many different ways, such as monitoring, supervision and parental knowledge. The definition used in this study has previously been used by Laird and colleagues (2003).

Note 4. The chi-square statistic compares the observed covariance matrix to the matrix expected given the proposed models. A non-significant chi-square value indicates a good fit. The comparative fit index (CFI) ranges from 0-1, with values greater than .95/.90 indicating a good fit. The root mean square error of approximation (RMSEA) is the average amount of error found in the parameter estimates of the models. An RMSEA value below .05 indicates a well-fitting model (Kline, 2005).

Note 5. It should be noted that the influences and correlations associated with the study variables are likely to have reciprocal effects and thus in theory, many of the paths could be reversed. For example, parental knowledge has been suggested both to influence and to be influenced by youth behavior (Laird et al., 2003; Keijsers et al., 2010). The aim of the study has not been to test reciprocal effects, but we have no intention of arguing that these effects do not exist. Also, when testing alternative/reverse path models, the fit between the data and the models was not as good as in the model presented here. Nonetheless, in forthcoming studies it will be possible to conduct a more focused elaboration of reciprocal relationships among the variables as a result of the longitudinal design of the MINDS study.

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III

**Changes in various aspects of parental monitoring in relation to changes in adolescents'
criminogenic exposure**

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Abstract

The objective of this study is to examine different aspects of parental monitoring and young people's moral values in the explanation of why some adolescents are more exposed to criminogenic settings than others. Between-person and within-person differences has been examined over two waves of data in a sample of 482 adolescents drawn from the Malmö Individual and Neighbourhood Development Study (MINDS). The results indicate that adolescents experiencing less monitoring and adolescents with poor moral values tend to be more exposed to criminogenic settings. Further, a decrease in monitoring over time can explain some of the increase in criminogenic exposure over time. The findings also indicate that parental monitoring appears to be important regardless of the level of a young person's moral values. Overall, the results thus indicate that it is important for parents to maintain high levels of monitoring during adolescence.

Keywords: adolescents, between- and within-person analyses, criminogenic exposure, parental monitoring

Introduction

A substantial amount of research has demonstrated the significance of young people's exposure to criminogenic settings in the explanation of delinquent activity (Osgood, Wilson, O'Malley, Bachman, & Johnston, 1996; Osgood & Anderson, 2004; Weerman, Bernasco, Bruinsma, & Pauwels, 2013; Wikström & Butterworth, 2006; Wikström, Ceccato, Hardie, & Treiber, 2010). With the exception of recent studies conducted by Janssen and colleagues (Janssen, Deković, & Bruinsma, 2014; Janssen, Bruinsma, Deković, & Eichelsheim, 2016; Janssen, Eichelsheim, Deković, & Bruinsma, 2016; Janssen, Weerman, & Eichelsheim, 2017), little attention has been focused on attempts to explain why some adolescents are more exposed to criminogenic settings than others. The most significant persons in preventing adolescents from being exposed to criminogenic settings are their parents (Felson & Boba, 2010; Wikström, Oberwittler, Treiber, & Hardie, 2012). Furthermore, while variations in criminogenic exposure might also be explained by young persons' moral values (Wikström & Svensson, 2010; Wikström et al., 2010), we only have limited knowledge whether moral values influence the relationship between parental monitoring and criminogenic exposure. In addition, apart from findings presented in a few studies (e.g. Janssen et al., 2016a), little is known about whether changes in monitoring during adolescence are related to changes in criminogenic exposure over time, or about the role that adolescents' moral values might play in these processes. Based on the findings previously presented by Janssen and colleagues, some of the aspects examined in their work will also be examined in the present study. The aim is to examine various aspects of parental monitoring as determinants of criminogenic exposure. In addition to conducting the between-person comparisons that are commonly presented in the research, the present study also examines associations between changes in parental monitoring and criminogenic exposure over time. These associations will be examined in relation to a key developmental marker in adolescence – the transition from compulsory school to upper secondary school.

Background

Criminogenic exposure

In the study of social settings and the characteristics that make them criminogenic, peers, a lack of social control and unstructured activities have been identified as essential elements that will increase the risk of offending (Osgood et al., 1996). These elements are suggested to be linked to temptations, opportunities and controls that make

delinquent behavior more or less attractive (Felson & Boba, 2010; Wikström et al., 2012). In the presence of peers, criminal behavior has been found to be both more frequent and more rewarding (Osgood et al., 1996). It is well established that most young people commit offences together with peers (Warr, 2002; Wikström & Butterworth, 2006). Unstructured socializing is characterized by little constraint on how time is spent, and is therefore suggested to increase the risk of offending (Osgood et al., 1996; Osgood, Anderson, & Shaffer, 2005). The absence of adult supervision indicates that social control is low. Settings that include combinations of these elements have been suggested to be related to adolescent offending (Haynie & Osgood, 2005; Osgood et al., 1996; Osgood & Anderson, 2004; Weerman et al., 2013; Wikström et al., 2010; Wikström et al., 2012). The amount of time a person spends in criminogenic settings has been shown to be crucial when it comes to the degree of involvement in delinquent behavior (Felson & Boba, 2010; Wikström et al., 2012). This knowledge underscores the importance of improving our understanding of what it is that determines why some adolescents spend more time than others in these kinds of settings.

Previous research has demonstrated different ways in which parents prevent their children from experiencing criminogenic exposure, both directly and indirectly, intentionally or unintentionally. Recent studies have shown that adolescents with a high-quality relationship with their parents, and adolescents who perceive higher levels of monitoring and limit-setting by parents, tend to spend less time in criminogenic settings (Janssen, et al., 2014; Janssen, et al., 2016a). By monitoring adolescents directly, but also in more indirect ways, parents may encourage their children to associate less with delinquent peers. For example, adolescents with a high-quality relationship with their parents have been found to seek out friends of whom their parents will approve, in order to avoid disappointing their parents (Knoester, Haynie, & Stephens, 2006; Warr, 2005). Moreover, adolescents who receive more effective parenting are also less likely to engage with deviant peers and acquire delinquent attitudes (Janssen et al., 2016a; Knoester et al., 2006; Ragan et al., 2013; Warr, 2005). Furthermore, Osgood and Anderson (2004) found that parental monitoring is negatively associated with unstructured socializing with peers.

According to previous research, a young person's moral values indicate what the individual considers to be right and wrong, and may have implications for the kinds of options that the young person will consider (Wikström & Sampson, 2003). Previous research has shown that adolescents with poor moral values tend to spend more time in criminogenic settings (Janssen et al., 2016a; Wikström et al., 2010). Wikström and Svensson (2010) suggest

that the reason individuals with high levels of morality do not commit offences is that they do not see crime as an action alternative. In line with these suggestions, it is reasonable to consider the possibility that individuals with strong moral values may not even consider hanging out with deviant peers, for example, irrespective of the level of monitoring.

Changes in criminogenic exposure over time

Adolescence is an important developmental phase in life, characterized by both individual and social change (Mulvey, 2014; Pettit, Laird, Dodge, Bates, & Criss, 2001; Smetana, Campione-Barr, & Metzger, 2006; Steinberg & Silk, 2002). This period is challenging, not only for adolescents, but also for their parents, who often describe adolescence as the most challenging phase of the child-rearing process (Smetana et al., 2006). How parents and children deal with these changes may have important consequences for adolescent development and behavioral patterns (Pettit et al., 2001; Steinberg, 2000; Steinberg, 2001). Further, some research has addressed the importance of studying changes in parental monitoring-related strategies during this period, since they may be crucial to the explanation of potential behavioral changes (Jang, 1999; Mulvey, 2014).

During adolescence, there are usually changes in youths' routines, more time is generally spent outside the home, and individuals' activities and peer groups usually change and expand (Keijsers et al., 2012; Laird, Pettit, Dodge, & Bates, 1998; Sullivan, 2013). For parents, these changes may have consequences when it comes to the possibilities for monitoring their children. The general suggestion is that monitoring overall become less restrictive during this period, and that there is a decrease in parents' knowledge about their children's whereabouts, activities and peers (Laird, Pettit, Dodge, & Bates, 2003; Loeber et al., 2000; Wikström et al., 2012). One common explanation for the less restrictive monitoring witnessed during this period is that it constitutes a natural step in the process of establishing autonomy and independence in relation to parents and it is therefore defined as a normative developmental change in the transitional period between childhood and the beginning of adulthood (Steinberg & Silk, 2002). One important change that has been defined as a key developmental marker during adolescence, and which might influence parents' possibilities for monitoring their children, is found in school transitions (Barber, Maughan, & Olsen, 2005). A school transition may include changes in young people's daily routines, which may in turn enable parents to grant their children more independence.

Although changes in daily routines, e.g. spending more time away from home and hanging out with friends more, do not inevitably lead to delinquency, we know from both theory and empirical studies that time spent in unstructured socializing with peers in the absence of adult supervision is a factor that provides opportunities for crime (Osgood et al., 1996; Weerman et al., 2013; Wikström & Butterworth, 2006). Adolescence is generally a period that involves a greater risk of exposure to people and/or environments that might have a negative influence on the development of problematic behavior, and adolescence is also the period in which the level of overall involvement in crime peaks (Wikström et al., 2012). One could therefore argue that parenting and effective monitoring strategies may be *increasingly* important during this period and that we need more knowledge about the role of parents and about the consequences of changes in their monitoring strategies during this period of transition. Recent studies have examined the question of how changes in different parenting strategies are related to changes in the time adolescents spend in criminogenic settings over time (e.g. Janssen et al., 2014). The findings show that decreases in parental limit setting and in the quality of the parent-adolescent relationship are related to increases in the amount of time spent in criminogenic settings over time. However, a decrease in parental monitoring was not found to be significantly associated with an increase in the amount of time spent in criminogenic settings (Janssen et al., 2014; Janssen et al., 2016a).

Despite existing knowledge about changes in monitoring and young people's exposure to different or new settings (some of which may be criminogenic) during the period of adolescence, research is still needed about whether and how different monitoring strategies are associated with criminogenic exposure and how changes in these variables might be associated over time. In addition, few studies have examined whether these changes affect all adolescents similarly or whether some individuals are more vulnerable to their effects than others. One of the recent studies conducted by Janssen and colleagues showed that the association between changes in parenting and changes in time spent in criminogenic settings could partially be explained by changes in delinquent attitudes (i.e. moral values) (Janssen et al., 2016a).

Present study

In the present study, we attempt to contribute to the existing literature in several ways. Building on previous work by Janssen and colleagues (2014; 2016a; 2016b; 2017), we will examine the relationship between changes in parental monitoring and adolescents criminogenic exposure over time. The present study will add to the findings by Janssen and

colleagues by examining two monitoring-related measures that have not previously been studied within this area. These measures are assessed to represent different dimensions of monitoring and allow us to analyze potential changes in different monitoring-relevant strategies over time. One measure, *time spent with parents*, is intended to capture a more direct, active-parenting approach to controlling and monitoring children, whereas the other measure, *parental knowledge*, is more dependent on child disclosure, which usually reflects the quality of parent-child relationship rather than active monitoring (Stattin & Kerr, 2000). There is relatively little empirical research documenting the actual amount of time adolescents spend with parents and/or in criminogenic settings and how these time allocations are associated over time. We employ space-time budget data that gives us very detailed and precise information about where and how the respondents in the study spend their time (Wikström & Butterworth, 2006; Wikström et al., 2010; Wikström et al., 2012). Second, we will add knowledge to the results presented by Janssen and colleagues (2014; 2016a), related to the length of the period covered by the data, as we are able to analyze the associations between, and the development of, the study variables over a developmental marker – the transition from compulsory school to upper secondary school. Third, since adolescence is characterized by changes, we will not only examine the between-person associations that are commonly presented in the research, but will also, in line with the analytical approach in Janssen et al. (e.g. 2014), conduct within-person analyses in order to examine the extent to which changes in parenting are related to changes in criminogenic exposure over time. Fourth, we will include adolescents' moral values in the analysis. Moral values have been identified as an important individual characteristic in relation to the amount of time spent in criminogenic settings (Janssen et al., 2016a; Wikström et al., 2010). Although recent findings presented by Janssen and colleagues (2016a) indicate that the association between parenting and time spent in criminogenic settings is partly mediated by adolescents' moral values, there is little existing knowledge on whether, and how, individual moral values affect the association between parents monitoring strategies and criminogenic exposure.

Against this background, the aim of the present study is to examine how parental monitoring is associated with adolescents' exposure to criminogenic settings. First, we will examine how differences in parental monitoring are associated with differences in exposure to criminogenic settings between adolescents. Second, we will examine how changes in parental monitoring are associated with changes in adolescents' criminogenic exposure over time. Finally, the analysis will examine the influence of (change in) moral

values on the association between (changes in) parental monitoring and (changes in) criminogenic exposure.

Method

Data

The Malmö Individual and Neighbourhood Development Study (MINDS) is a longitudinal research project modelled on the Peterborough Adolescent and Young Adult Development Study (PADS+) conducted by the Institute of Criminology, University of Cambridge (Wikström et al., 2012). The overall aim of the MINDS project is to contribute to a better understanding of the causes and prevention of young people's offending, but also to study how exposure to social settings affects other aspects of adolescent development and health. MINDS was initiated in 2007 in Malmö, Sweden's third largest city, with about 300,000 inhabitants. The study follows a sample of adolescents who were randomly selected from the cohort of adolescents born in 1995 and living in Malmö at age 12-21. The total sample consists of 550 adolescents (approximately 20 percent of the cohort).

The data employed in the current study are drawn from the second and third wave of data collection (hereafter called T1 and T2), which were conducted in 2010-2011 when the adolescents were in their final year of compulsory schooling (aged 15-16 years), and in 2011-2012, when the adolescents were in their first year of upper secondary schooling (aged 16-17 years). Only the adolescents who participated in both waves were included in the present study ($N = 482$). The two-wave sample consists of 240 girls and 242 boys. By comparison with the city of Malmö as a whole, adolescents from a foreign background and adolescents from the city's more disadvantaged areas are somewhat underrepresented in the study sample.

Measures

Two research instruments from the MINDS project are employed in the present study: the questionnaire and a space-time budget interview. The self-report questionnaire was mainly administered in groups of four adolescents, supervised by a trained research assistant during regular school hours with no teachers present.

The space-time budget interview was initially developed by Wikström and Butterworth (2006) in the Peterborough Youth Study, and is a method that combines a time-

diary with a geographical component. The space-time budget includes detailed hourly information about *where*, *when* and *what* respondents were doing and *with whom*. This data allows us to study the amount of time a person has spent in particular social environments and specific social settings, and thus provides us with a measure of exposure to environments and settings. The space-time budgets cover a four-day period per respondent for each wave of data collection. The data were collected in individual face-to-face interviews conducted with each respondent.

Two dependent variables are examined in the present study. *Involvement with deviant peers* is a general deviant peer process construct based on six items and measures the amount of deviant and delinquent behavior among peers as perceived by the respondent. The respondents were asked whether some of their closest friends at times: skip school / get drunk / use drugs (e.g. cannabis) and/or sniff glue / shoplift or steal from other people / vandalize things / get into fistfights (where someone gets hurt). The response alternatives for these items were: *no / yes / yes, often*. This scale has a Cronbach's α of .78 at T1 and .74 at T2. A high score on the measure implies a high level of deviant peer affiliations.

Time spent unsupervised with peers in unstructured activities is taken from the space-time budget interview and measures the total number of hours awake and spent in 'unsupervised unstructured peer-oriented activities'. This variable incorporates only the hours in which one or more peers were present and in which no adult family member or other significant adult was present. Further, we only included the hours in which a respondent was involved in unstructured activities (for example, 'hanging around' or 'walking around without a destination').

Two independent variables representing different dimensions of parental monitoring are examined. *Parental knowledge* is an additive scale based on three items describing the adolescents' perceptions of their parents' knowledge of their whereabouts, activities and peers. For these items, the data are from the questionnaire. The adolescents were asked whether their parents know: where they hang out in their free time (e.g. at a friend's house, in a park) / what they do when they are alone or with friends / which friends they hang out with. The response alternatives for these items were: *Yes, always / yes, most of the time / yes, sometimes / no, never*. This measure does not primarily stem from parents' monitoring behaviors, but rather from adolescents' disclosing their activities to parents (Stattin and Kerr, 2000). However, this measure has been shown to constitute a crucial part of the parental

monitoring process, and as such is a marker for parental monitoring. Cronbach's α was .81 at T1, and .78 at T2. Low values mean poor parental knowledge.

Time spent with parents is a measure drawn from the space-time budget interview. It measures the total number of hours awake spent in the presence of parents over the course of the four days covered by the interview. For each respondent, we summed the number of hours that were spent (in any place) with parents present. Parents spending time with their children represents a direct and intensive way of monitoring children.

Moral values is an additive scale drawn from the questionnaire data based on sixteen items describing how serious the adolescents think it is for someone their age to do the following: steal a pencil from a classmate / skip doing homework for school / ride a bike through a red light / go skateboarding in a place where skateboarding is not allowed / hit another young person who makes a rude comment / lie to, disobey, or talk back to teachers / get drunk with friends on a Friday evening / smoke cigarettes / skip school without an excuse / tease a classmate because of the way she or he dresses / smash a street light for fun / paint graffiti on a house wall / steal an mp3-player from a shop / smoke cannabis / break into or try to break into a building to steal something / use a weapon or force to get money or things from another young person. The response alternatives for these items were: *not wrong at all* / *a little wrong* / *wrong* / *very wrong*. The moral values scale has a Cronbach's α of .86 at T1 and .84 at T2. Low values mean poor moral values.

Sex was included in the analysis as a control variable since it is known that both exposure to criminogenic settings and parental monitoring differ between girls and boys. Sex is coded 1 for boys and 2 for girls.

Although the item nonresponse was low overall, the estimation-maximization (EM) method was employed to impute acceptable values for missing data in order to minimize the loss of information.

Analytical strategy

The analytical approach in the present study is similar to the analyses conducted by Janssen and colleagues (2014). In order to examine whether the study variables change over time, the study reports the absolute and relative stability of the variables. To examine the absolute stability, mean values are compared of each variable at T1 with the mean value of the same variable at T2. The relative stability represent correlations over time, and is examined by stability coefficients. In other words, relative stability shows the extent to which an

individual maintains her/his position on a specific variable over time relative to other individuals in the sample (Forehand & Jones, 2002).

To be able to estimate between-person as well as within-person differences, longitudinal negative binomial multilevel analyses were conducted. The between-person analyses examine (for example) whether one person who perceives that his or her parents are less knowledgeable about his or her activities, whereabouts and peers, than another person, is also more involved with deviant peers. The within-person analyses are arranged in time, nested within persons, and address how change in one variable is associated with change in another variable; for example, whether an increase in time spent with parents over time for one person is associated with an increase in involvement with deviant peers for the same person, regardless of his or her initial level of time spent with parents or involvement with deviant peers and regardless of other relevant differences in (stable) personal characteristics. To compare the effects of the different monitoring variables and moral values on exposure to criminogenic settings, the incidence rate ratio (IRR) has been calculated. The IRR is the exponentiated value of the coefficients (Hilbe, 2011).

Results

Table 1 presents the Pearson's correlations between the variables at T1 and T2, and, on the diagonal, the stability coefficients for the study variables at T1 and T2. All correlations were statistically significant and in the expected directions across both waves. Overall, the results indicate that the more parents monitor their children, the less exposed the children are to criminogenic settings. In addition, the well-monitored adolescents also report higher levels of moral values, while those adolescents who report poor moral values report higher levels of criminogenic exposure. These results apply to both T1 and T2. Further, the correlations indicate that the more adolescents are involved with deviant peers, the more likely they are to spend unsupervised time with peers in unstructured activities, and the higher the level of perceived parental knowledge, the more time the adolescents spend with their parents (however, this correlation is only significant at T1). Table 1 also shows that the variables assessing time use, time spent with parents and time spent unsupervised with peers in unstructured activities, are negatively and significantly correlated. Adolescents who spend more time with their parents consequently spend less time unsupervised with peers in unstructured activities. However, the correlations are only moderate (-.423/-.458), indicating

that adolescents spend a substantial amount of their time awake without their parents but in structured and supervised activities. Overall, all correlations are somewhat stronger at T1.

The examination of the relative stability of the study variables over time indicates that the rank order stability of the variables drawn from the questionnaire data are moderate (.481-.653), while the stability coefficients for the variables drawn from the space-time budget are rather low (.260-.326).

Table 1. Pearson's correlations at T1 (N=482) and T2 (N=482)

	1	2	3	4	5
1. Parental knowledge	.481***	.130**	.432***	-.435***	-.255***
2. Time spent with parents	.026	.260***	.157***	-.235***	-.458***
3. Moral Values	.318***	.113*	.653***	-.487***	-.326***
4. Deviant peers	-.315***	-.145**	-.400***	.648***	.324***
5. Time spent unsupervised...	-.142**	-.423***	-.240***	.302***	.326***

The values above the diagonal represent correlations at T1, the values below the diagonal represent correlations at T2 and the values on the diagonal represent stability coefficients.

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 2 lists the means, standard deviations and ranges of the variables. In order to examine the absolute stability, paired samples t -tests were conducted to compare mean scores across both waves, which are also presented in Table 2.

Table 2. Descriptive statistics and t -tests of study variables

Variable	Time 1			Time 2			t -test
	Range	Mean	SD	Range	Mean	SD	
Parental knowledge	0-9	6.01	1.95	0-9	6.22	1.89	-2.32*
Time spent with parents	6-80	31.38	10.48	4-86	29.06	11.64	3.69***
Moral Values	5-48	26.46	7.44	0-46	25.21	7.13	4.54***
Deviant peers	0-12	2.97	2.58	0-12	3.43	2.42	-4.74***
Time spent unsupervised...	0-33	4.32	5.68	0-51	6.14	6.90	-5.33***

High scores on the scales indicate high levels of parental knowledge, moral values and involvement with deviant peers. When it comes to time spent with parents and time spent with peers, the figures represent the number of hours spent with parents/peers. * $p < .05$; ** $p < .01$; *** $p < .001$

Comparing the mean scores of both waves shows that all of the study variables differed significantly between T1 and T2. The adolescents' perceptions of their parents' knowledge about their whereabouts, activities and peers showed a small, but significant increase from T1-T2 ($t = -2.32, p = .021$). Also, the level of involvement with deviant peers ($t = 4.74, p = .000$) and the amount of time spent in unstructured socializing with peers without adult supervision ($t = -5.33, p = .000$) increased between the two waves from just under 4.5

hours to just over 6 hours. The amount of time spent in the presence of parents significantly decreased between the two waves, from just over 31 hours to around 29 hours of their awake time ($t = 3.69, p = .000$). The level of moral values also decreased from T1-T2 ($t = 4.54, p = .000$).

Table 3 shows the results of the negative binomial multilevel analysis examining how (change in) parental knowledge and time spent with parents is related to (change in) involvement with deviant peers, and whether these relations are influenced by (change in) the adolescents’ moral values. The statistically significant between-person estimates indicate that adolescents are expected to have an increased risk of being involved with deviant peers if they have lower perceptions of parental knowledge (IRR = .84) and spend less time with their parents (IRR = .98). When moral values are included in the analyses, the results indicate that lower levels of moral values increase the risk for being involved with deviant peers. This variable had no major influence on the associations presented in the first model.

When it comes to the within-person estimates, only changes in perceived parental knowledge showed themselves to be statistically significant in predicting changes in involvement with deviant peers. Here the within-person estimate indicates that a decrease in perceived parental knowledge is associated with an increase in involvement with deviant peers over time (IRR = .91). Changes in moral values over time are not significantly related to changes in involvement with deviant peers at the .05-level.

Table 3. Negative binomial multilevel regression predicting involvement with deviant peers

	Model 1			Model 2		
	Estimate	SE	IRR	Estimate	SE	IRR
Sex (ref. boy)	-.075	.061	0.93	-.022	.056	0.98
Between-person						
Parental knowledge	-.174***	.018	0.84	-.110***	.018	0.90
Time spent with parents	-.019***	.003	0.98	-.015***	.003	0.98
Moral values				-.040***	.006	0.96
Within-person						
Parental knowledge	-.089***	.018	0.91	-.079***	.019	0.92
Time spent with parents	-.000	.003	1.00	-.000	.003	1.00
Moral values				-.011	.006	0.99

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 4 shows the results of the negative binomial multilevel analysis examining how (change in) parental knowledge and time spent with parents is related to (change in) the amount of time the adolescents spend unsupervised with peers in unstructured activities, and whether these relations are influenced by (change in) the adolescents' moral values. The statistically significant between-person estimates are similar to the results presented in Table 3, with deviant peers as the outcome variable. That is, the higher the level of perceived parental knowledge, and the more time that is spent with parents, the less time is spent unsupervised with peers in an unstructured activities. The between-person effects indicate that those adolescents reporting lower levels of perceived parental knowledge ($IRR = .87$), and who spend less time with parents ($IRR = .94$), have an increased risk of spending more unsupervised time with peers in unstructured activities. Introducing moral values into the second model does not affect these associations in any substantial way. Moral values are negatively and significantly associated with the amount of time spent unsupervised with peers in unstructured activities, indicating that those adolescents with poor moral values are expected to spend more time unsupervised with peers in unstructured activities ($IRR = .97$).

At the same time, the findings from the within-person analysis do differ from the results presented above in relation to involvement with deviant peers. Change in perceived parental knowledge was not related to a change in the time spent unsupervised with peers in unstructured activities. However, a change in the amount of time spent unsupervised with peers in unstructured activities might be explained by a change in the time spent with parents, indicating that a decrease in the time spent with parents is related to an increase in the time spent unsupervised with peers in unstructured activities ($IRR = .96$). Changes in moral values are not significantly associated with any change in the time spent unsupervised with peers in unstructured activities.

Table 4. Negative binomial multilevel regression predicting time spent unsupervised with peers in unstructured activities

	Model 1			Model 2		
	Estimate	SE	IRR	Estimate	SE	IRR
Sex (ref. boy)	.048	.082	1.05	.085	.081	1.09
Between-person						
Parental knowledge	-.144***	.027	0.87	-.093**	.028	0.91
Time spent with parents	-.060***	.005	0.94	-.057***	.005	0.94
Moral values				-.033***	.006	0.97
Within-person						
Parental knowledge	-.054	.040	0.95	-.042	.041	0.96
Time spent with parents	-.043***	.006	0.96	-.044***	.006	0.96
Moral values				-.022	.013	0.98

* p < .05, ** p < .01, *** p < .001

Discussion

Building on previous work by Janssen and colleagues (2014; 2016a; 2016b; 2017), we have attempted to further explore how different aspects of parental monitoring are related to adolescent criminogenic exposure. Knowledge about why some adolescents are at increased risk of being exposed to criminogenic settings is important in order to reduce the risk of delinquent activity among adolescents (Janssen et al., 2016a; Wikström et al., 2010).

The between-person associations examined largely validate the results presented in previous studies showing that adolescents who receive or perceive more effective parenting, are less exposed to, and spend less time in criminogenic settings (see e.g. Janssen et al., 2014). Further, also in line with previous studies, the results indicate that poor moral values increase the risk for criminogenic exposure (Janssen et al., 2016a; Wikström et al., 2010). However, individual moral values do not seem to affect the associations between monitoring-related measures and criminogenic exposure. Parental monitoring thus appears to be important regardless of the adolescent's level of moral values. A recent study presented different findings in this regard, reporting that associations between parenting and time spent in criminogenic settings could partly be explained by adolescents' delinquent attitudes (Janssen et al., 2016a).

When it comes to our examination of changes in these variables, we found that monitoring strategies change in the sense that parents tend to supervise their children less directly over time, and that they seem rather to come to rely more on other, more distal forms

of monitoring. However, it is important to bear in mind that we have employed data based on self-reports and on the perceptions of the adolescents. It is possible that parents do not change their behavior, but rather that adolescents merely perceive a change, or vice versa. For example, it has been suggested that adolescents tend to report lower levels of monitoring than their parents (Abar et al., 2015), and when it comes to the development of monitoring, there are studies indicating that while parents report a decline in monitoring during adolescence, adolescents report stability. The actual empirical evidence for change has not been particularly strong or consistent in previous studies (Barber et al., 2005).

The results of our within-person analysis are not quite as distinct as the results of the between-person analysis. The only factor found to be statistically significant in explaining an increase in involvement with deviant peers between the two waves was a decrease in parental knowledge of children's whereabouts. Further, the only factor found to be associated with an increase over time in the amount of time spent unsupervised with peers in unstructured activities was a decrease in the time spent with parents. Consequently, a decrease in monitoring is valid as an explanation for an increase in criminogenic exposure over time to a certain extent. These findings indicate that the measurement tool appears to be important. In examining between-individual differences in exposure to criminogenic settings, both measures of parental monitoring are associated with both measures of exposure, regardless of the data source. However, when it comes to predicting individual change over time, we only found associations between variables drawn from the same data source, i.e. the questionnaire and the space-time budget respectively.

Changes in moral values were not significant in predicting change in either of the two measures of criminogenic exposure over time. When it comes to moral values, it seems likely that adolescents having high moral values is of greater importance than their experiencing a decrease in moral values, when it comes to predicting the level of, or an increase in, criminogenic exposure.

As with any study, the present study is subject to a number of methodological issues that need to be addressed. First, the longitudinal data employed in the study comprise two waves of data covering an important developmental transition experienced during the adolescent period. To elaborate on the findings from the present study, future research might examine developments throughout the entire period of adolescence in order to nuance the analysis even further. Second, the measures of parental knowledge and of involvement with deviant peers are based on the adolescents' perceptions. The question of whether adolescents'

perceptions may be viewed as measurements of actual parenting is one that is open to discussion. At the same time, it is probably the adolescents' perceptions of their parents' monitoring that matter most when it comes to effects on their behavior. Moreover, it is likely that the monitoring measure drawn from the space-time budget is less biased, since it may be viewed as more objective due to its being a report of the number of hours spent with parents, rather than being based on the young persons' perceptions of their parents' behavior. As regards the measure based on the adolescents' perceptions of deviant behaviors among their peers, it is probable that such measures are somewhat biased. Previous studies have indicated that individuals tend to impute or project their own attitudes and behavior onto peers, which might result in an overestimation of the strength of the relationship with their own behavior (Haynie & Osgood, 2005; Weerman & Smeenk, 2005).

Despite these methodological considerations, the present study contributes to the literature in several ways. The study shows that the level of parental monitoring is not only important for our understanding of differences between adolescents when it comes to exposure to criminogenic settings. Parental monitoring also plays an important role in understanding changes in adolescent behavior. In addition to more well-researched measures of both monitoring and criminogenic exposure, we have examined measures derived from the space-time budget. This provides very detailed information about what, with whom and where adolescents spend their time.

In future research, it will be important to validate the findings of this study using other samples and different methods for assessing how changes in parental monitoring affect how adolescents spend their time. As was mentioned earlier, it would be valuable to examine developments, and the associations between the variables, across the entire period of adolescence. In addition, our knowledge would be advanced by including other measures of monitoring, in order to more fully examine the patterns of monitoring across adolescence and how different aspects develop over time and whether there are variations over time in the significance of different monitoring strategies. It would also be worthwhile to validate the consistency in patterns across reporters, for example by comparing youth- and parent-reported data. Moreover, it would be worthwhile to make comparisons, for example, between mothers and fathers, between patterns in early adolescence and later adolescence, or between patterns from single- and two-parent families.

Conclusion

The findings from the present study highlight the importance of parents maintaining high levels of monitoring in order to prevent their children experiencing criminogenic exposure during the transitional period of adolescence. Monitoring, overall, appears to be significant for our understanding of differences between individuals in how they spend their time. It also seems that decreases in monitoring can explain increases in criminogenic exposure over time to a certain extent. Moral values are important for our understanding of why some adolescents are more exposed to criminogenic settings, although moral values do not appear to have a considerable effect on the association between monitoring and criminogenic exposure. Although adolescents gain greater freedom and independence from their parents during this period, parents remain important for the continuing socialization of adolescents. And, since adolescents spend more time away from home, it is important for parents to be knowledgeable about what their children are up to and to maintain some sort of monitoring.

References

- Abar, C. C., Jackson, K. M., Colby, S. M. and Barnett, N. P. (2015). Parent-child discrepancies in reports of parental monitoring and their relationship to adolescent alcohol-related behaviors. *Journal of Youth and Adolescence* 44(9), 1688-1701. doi:10.1007/s10964-014-0143-6
- Barber, B. K., Maughan, S. L. and Olsen, J. A. (2005). Patterns of parenting across adolescence. *New Directions for Child and Adolescent Development* 108, 5-16. doi:10.1002/cd.124
- Felson, M. and Boba, R. L. (2010). *Crime and Everyday Life*. Thousand Oaks: CS: Sage Publications Inc.
- Forehand, R. and Jones, D. J. (2002). The stability of parenting: A longitudinal analysis of inner-city african-american mothers. *Journal of Child and Family Studies* 11(4), 455-467. doi:10.1023/A:1020935525335
- Haynie, D. L. and Osgood, D. W. (2005). Reconsidering peers and delinquency: How do peers matter? *Social Forces* 84(2), 1109-1130. doi:10.1353/sof.2006.0018

- Hilbe, J. M. (2011). *Negative Binomial Regression*. Cambridge University Press.
- Jang, S. J. (1999). Age-varying effects of family, school, and peers on delinquency: a multilevel modeling test of interactional theory. *Criminology* 37(3), 643-686.
doi:10.1111/j.1745-9125.1999.tb00499.x
- Janssen, H. J., Bruinsma, G. J., Deković, M. and Eichelsheim, V. I. (2016a). A between-and within-person analysis of parenting and time spent in criminogenic settings during adolescence the role of self-control and delinquent attitudes. *Youth & Society*, 1-26.
doi:10.1177/0044118X16636138
- Janssen, H. J., Deković, M. and Bruinsma, G. J. (2014). Parenting and time adolescents spend in criminogenic settings: A between-and within-person analysis. *British Journal of Criminology* 54, 551-567. doi:10.1093/bjc/azu032
- Janssen, H. J., Eichelsheim, V. I., Deković, M. and Bruinsma, G. J. (2016b). How is parenting related to adolescent delinquency? A between- and within-person analysis of the mediating role of self-control, delinquent attitudes, peer delinquency, and time spent in criminogenic settings. *European Journal of Criminology* 13(2), 169-194.
doi:10.1177/1477370815608881
- Janssen, H. J., Weerman, F. M. and Eichelsheim, V. I. (2017). Parenting as a protective factor against criminogenic settings? Interaction effects between three aspects of parenting and unstructured socializing in disordered areas. *Journal of Research in Crime and Delinquency* 54(2), 181-207. doi:10.1177/0022427816664561
- Keijsers, L., Branje, S., Hawk, S. T., Schwartz, S. J., Frijns, T., Koot, H. M. and Meeus, W. (2012). Forbidden friends as forbidden fruit: Parental supervision of friendships, contact with deviant peers, and adolescent delinquency. *Child Development* 83(2), 651-666.
doi:10.1111/j.1467-8624.2011.01701.x
- Knoester, C., Haynie, D. L. and Stephens, C. M. (2006). Parenting practices and adolescents' friendship networks. *Journal of Marriage and Family* 68(5), 1247-1260.
doi:10.1111/j.1741-3737.2006.00326.x

- Laird, R. D., Pettit, G. S., Dodge, K. A. and Bates, J. E. (1998). The social ecology of school-age child care. *Journal of Applied Developmental Psychology* 19(3), 341-360. doi:10.1016/S0193-3973(99)80044-6
- Laird, R. D., Pettit, G. S., Dodge, K. A. and Bates, J. E. (2003). Change in parents' monitoring knowledge: Links with parenting, relationship quality, adolescent beliefs, and antisocial behavior. *Social Development* 12(3), 401-419. doi:10.1111/1467-9507.00240
- Loeber, R., Drinkwater, M., Yin, Y., Anderson, S. J., Schmidt, L. C. and Crawford, A. (2000). Stability of family interaction from ages 6 to 18. *Journal of Abnormal Child Psychology* 28(4), 353-369. doi:10.1023/A:1005169026208
- Mulvey, E. P. (2014). Using developmental science to reorient our thinking about criminal offending in adolescence. *Journal of Research in Crime and Delinquency* 51(4), 467-479. doi:10.1177/0022427814522249
- Osgood, D. W. and Anderson, A. L. (2004). Unstructured socializing and rates of delinquency. *Criminology* 42 (3), 519-549. doi:10.1111/j.1745-9125.2004.tb00528.x
- Osgood, D. W., Anderson, A. L. and Shaffer, J. N. (2005). Unstructured leisure in the after-school hours. In J.L Mahoney and R.W. Larson (Eds.) *Organized Activities as Contexts of Development: Extracurricular Activities, After-School and Community Programs* (pp. 45-64). Mahawah, NJ.
- Osgood, D. W., Wilson, J. K., O'Malley, P. M., Bachman, J. G. and Johnston, L. D. (1996). Routine activities and individual deviant behavior. *American Sociological Review* 61, 635-655. doi:10.2307/2096397
- Pettit, G. S., Laird, R. D., Dodge, K. A., Bates, J. E. and Criss, M. M. (2001). Antecedents and behavior-problem outcomes of parental monitoring and psychological control in early adolescence. *Child Development* 72(2), 583-598. doi:10.1111/1467-8624.00298
- Ragan, D. T., Osgood, D. W. and Feinberg, M. E. (2013). Friends as a bridge to parental influence: Implications for adolescent alcohol use. *Social Forces* 92, 1061-1085. doi:10.1093/sf/sot117

- Smetana, J. G., Campione-Barr, N. and Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *Annual Reviews Psychology*, 57, 255-284.
doi:10.1146/annurev.psych.57.102904.190124
- Stattin, H. and Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development* 71(4), 1072-1085. doi:10.1111/j.1532-7795.2009.00623.x
- Steinberg, L. (2000) 'The family at adolescence: Transition and transformation', *Journal of Adolescent Health* 27(3), 170-178.
- Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence* 11(1), 1-19. doi:10.1111/1532-7795.00001
- Steinberg, L., and Silk, J. S. (2002). Parenting adolescents. In M.H Bornstein (Ed.) *Handbook of Parenting*, 1 (pp. 103-133). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Sullivan, C. J. (2013). Individual, social, and neighborhood influences on the launch of adolescent antisocial behavior. *Youth Violence and Juvenile Justice* 12, 103-120.
doi:10.1177/1541204013483779
- Warr, M. (2002). *Companions in Crime: The Social Aspects of Criminal Conduct*. New York: Cambridge University Press.
- Warr, M. (2005). Making delinquent friends: Adult supervision and children's affiliations. *Criminology* 43(1), 77-106. doi:10.1111/j.0011-1348.2005.00003.x
- Weerman, F. M., Bernasco, W., Bruinsma, G. J. and Pauwels, L. J. (2013). When is spending time with peers related to delinquency? The importance of where, what, and with whom. *Crime & Delinquency*, Advance online publication 10.1177/0011128713478129.
- Weerman, F. M. and Smeenk, W. H. (2005). Peer similarity in delinquency for different types of friends: a comparison using two measurement methods. *Criminology* 43(2), 499-524.
doi:10.1111/j.0011-1348.2005.00015.x
- Wikström, P. H. and Butterworth, D. A. (2006). *Adolescent Crime. Individual Differences and Lifestyles*. Cullompton, UK: Willan Publishers.

- Wikström, P. H., Ceccato, V., Hardie, B. and Treiber, K. (2010). Activity fields and the dynamics of crime. *Journal of Quantitative Criminology* 26(1), 55-87.
doi:10.1007/s10940-009-9083-9
- Wikström, P. H., Oberwittler, D., Treiber, K. and Hardie, B. (2012). *Breaking rules: The Social and Situational Dynamics of Young People's Urban Crime*. Oxford, UK: Oxford University Press.
- Wikström, P. H. and Sampson, R. J. (2003). Social mechanisms of community influences on crime and pathways in criminality. In B.B Lahey, T.E. Moffitt and A. Caspi (Eds.) *Causes of Conduct Disorder and Juvenile Delinquency* (pp. 118-148). New York: Guilford Press.
- Wikström, P. H. and Svensson, R. (2010). When does self-control matter? The interaction between morality and self-control in crime causation. *European Journal of Criminology* 7(5), 395-410. doi:10.1177/1477370810372132

IV

The importance of context for parenting – do adolescents' perceptions of parental knowledge of their whereabouts vary by neighbourhood characteristics?

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Abstract

The aim of the present study is to explore the relationship between adolescents' perceptions of parental knowledge of their whereabouts and neighbourhood disorder and collective efficacy, and in addition how parental knowledge and neighbourhood characteristics are related to, and how they interact in predicting, adolescent offending. Neighbourhood characteristics were measured using two data sources: adolescents' own perceptions and an independent, aggregated measure. The analyses showed that the adolescents' perceptions of disorder and collective efficacy were associated with both parental knowledge and adolescent offending. The findings indicate that adolescents' perceptions of neighbourhood characteristics are related to parental knowledge to a certain extent. As regards the prediction of offending, parental knowledge is the most important predictor. However an interaction was found between parental knowledge and perceived collective efficacy, indicating that the effect of parental knowledge on offending is stronger in neighbourhoods where the level of collective efficacy is perceived to be low.

Keywords: parental knowledge, collective efficacy, disorder, adolescent offending, adolescent perceptions

Introduction

A majority of previous research on the association between parenting and neighbourhood characteristics has adopted the perspective of the adult, or rather the parent, and has utilized data from censuses and/or surveys conducted among adults/parents. Research that adopts the child's or adolescent's perspective on these issues remains scarce. Children are nested in families, and families are nested within communities (e.g. neighbourhoods) (Bronfenbrenner, 1979). This implies that the behavior of both children and parents is influenced by external and contextual factors (e.g. Hoeve et al., 2009; Huang & Ryan, 2014). Furstenberg (1993) argues that the ways in which parents manage their children are significantly affected by where they live, and the family's embeddedness in the neighbourhood shapes their parenting strategies.

Two neighbourhood characteristics that are often discussed as influencing or interacting with parental strategies are neighbourhood disorder (social and physical) and various dimensions of neighbourhood social control and cohesion (e.g. collective efficacy). Burton (1990) argues that the social and physical characteristics of neighbourhoods influence parents' decision-making about how they structure and regulate their children's activities. A majority of previous research has stressed that disadvantaged neighbourhoods have a negative influence on parenting and vice versa. There are difficulties associated with raising children in high-crime neighbourhoods that have high levels of disorder, weak social cohesion and limited resources (Ceballo & McLoyd, 2002). Pratt et al. (2004) found that in neighbourhoods with weak informal social control, parents were less likely to supervise their children. Simons et al. (2005) showed that increases in collective efficacy within a community were associated with increases in positive, i.e. authoritative, parenting. Furthermore, the deterrent effect of positive parenting on adolescents' contacts with deviant peers and delinquency was enhanced in neighbourhoods with high levels of collective efficacy. In addition to levels of neighbourhood disorder and collective efficacy, several studies have found that the socioeconomic structure of the neighbourhood also affects parental strategies. For example, a number of studies have shown that socially disadvantaged neighbourhoods are associated both with higher levels of harsh, inconsistent, and more punitive parenting (Kohen, Leventhal, Dahinten, & McIntosh, 2008; Leventhal & Brooks-Gunn, 2000), and with less parental monitoring, warmth and communication (Simons, Johnson, Beaman, Conger, & Whitbeck, 1996; Simons, Johnson, Conger, & Lorenz, 1997). Furthermore, Stern and Smith (1995) found that when parents

perceive higher levels of neighbourhood disadvantage, they are more likely to report lower levels of involvement with, and monitoring of, their children.

One explanation for differences in parental strategies between different neighbourhoods is that the stress of living in a disadvantaged neighbourhood disrupts family functioning (Rankin & Quane, 2002) and interferes with the use of effective parenting practices (Byrnes, Miller, Chen, & Grube, 2011; Simons et al., 1997). One example is that the distress associated with living in such neighbourhoods may disrupt the level of relaxation and energy parents need to engage in warm and non-harsh behavior with their children (Pinderhughes, Nix, Foster, & Jones, 2001). Leventhal and Brooks-Gunn (2004) posit that the influence of neighbourhood characteristics on adolescent offending and alcohol use is moderated by the effectiveness of parental monitoring (Rankin & Quane, 2002; Trucco, Colder, Wieczorek, Lengua, & Hawk, 2014).

By contrast, there is also research showing that neighbourhood disadvantage, e.g. disorder or low social control, may have a positive influence on some aspects of parenting. For example, Dishion and McMahon (1998) suggest that the number of community risk factors may influence the level of parental monitoring necessary to keep a child away from involvement with violence, either as victim or offender. In line with this, Armistead and colleagues (2002) found higher levels of monitoring among mothers living in high risk (urban) neighbourhoods than in low risk (rural) neighbourhoods. In addition, they found that monitoring was associated with fewer problem behaviors only in the high risk areas (Armistead et al., 2002; see also Chuang et al, 2005). There are also ethnographic and qualitative studies suggesting that parenting practices are more restrictive in disadvantaged neighbourhoods (Burton, 1990; Furstenberg, 1993). It therefore appears reasonable to expect that parents in more deprived neighbourhoods will monitor their children more closely than those in low risk neighbourhoods.

In summary, a majority of studies focus on parents' reports of their parenting and on their assessments of the neighbourhoods in which they live. However, it has been argued that children's and adolescents' perceptions and experiences of their neighbourhoods differ from those of their parents and other adults (Curtis et al., 2013; Morrow, 2001; Spilsbury, Korbin, & Coulton, 2009; Spilsbury, Korbin, & Coulton, 2012). Previous research has shown that adolescents' perceptions of their neighbourhoods might be an important predictor of crime involvement (e.g. Jones & Lynam, 2009), but also for outcomes such as mental health or substance use (Ivert & Torstensson Levander, 2014; Lambert, Brown, Phillips, & Ialongo,

2004). Including children and adolescents' viewpoints along with the perceptions of adults is therefore likely to enrich our understanding of how characteristics of the neighbourhood context are related to both parenting and adolescent offending.

Present study

Against this background, the aim of the present study is to further explore the relationship between parental knowledge and neighbourhood disorder and collective efficacy, and in addition, how parenting and neighbourhood characteristics are related to, and interact in predicting adolescent offending. To accomplish this, we will proceed from the perspective of the adolescent, both with regard to how adolescents perceive parental knowledge of their whereabouts, activities and peers, and how they perceive their neighbourhood of residence. However, we will also use data on neighbourhood characteristics drawn from an independent community survey in order to validate/compare adolescents' perceptions of neighbourhood characteristics with those of the general adult population living in the same area.

Method

Data

The study employs data from two different databases: The Malmö Individual and Neighbourhood Development Study (MINDS) and the Malmö Community Survey (MCS).

MINDS is a longitudinal study comprising a random sample of 550 children (about 20% of the total cohort) born in 1995 and living in Malmö on September 1st, 2007. The overall aim of the MINDS project is to contribute to a better understanding of the causes and prevention of young people's involvement in crime, but also to study how exposure to social settings affects other aspects of adolescent development and health. Up until now, four waves of data collection have been conducted. The data in the current study come from the second wave of data collection, conducted in 2010-2011, and include 514 adolescents (250 girls and 264 boys) distributed across 94 small-area neighbourhoods in the city. The adolescents were in their final year of compulsory schooling at the time of the data collection (aged 15-16 years). There is a small underrepresentation of adolescents with a foreign background and of adolescents from the more disadvantaged areas by comparison with the city of Malmö as a whole.

Data from the MCS was employed to assess contextual measures of the neighbourhoods in which the adolescents reside. The neighbourhood classification used in this study is the same

as that used in MINDS. The MCS survey was conducted in 2012 among a random sample of residents ($n = 8,000$) in the city of Malmö. The final sample is comprised of 4,051 respondents distributed across 104 neighbourhoods within the municipality. The age of the respondents ranges from age 18 to age 85 and they are for the most part representative of the population as a whole with regard to age, gender, country of birth, educational level and employment status. Younger respondents (aged 18-32) are underrepresented. The individual answers from MCS were aggregated to the neighbourhood level.

Study variables

Adolescents' perceptions of parental knowledge

Parental knowledge is an additive scale based on three items describing the adolescents' perceptions of their parents' knowledge of their whereabouts, activities and peers. The adolescents were asked whether their parents know: where they hang out in their free time (e.g. at a friend's house, in a park) / what they do when they are alone or with friends / which friends they hang out with. Parental control is a multidimensional measure, and this measure of parental knowledge constitutes a representation of indirect control rather than behavioral control, since it does not primarily stem from the active monitoring behaviors of parents. However, this measure has been shown to be a crucial part of the parental control process, and as such it constitutes a marker for parental control (see e.g. Kerr & Stattin, 2000; Smetana, Robinson, & Rote, 2015). Cronbach's α is .81. Low values on the scale indicate low levels of parental knowledge.

Self-reported offending

Self-reported offending is measured in the form of a variety scale summing the respondents' delinquent acts during the past year across 9 different offences. The adolescents were asked whether they had committed the crime in question during the past year. The following offences were included: shoplifting / theft from a person / vandalism / arson / robbery / assault / residential burglary / non-residential burglary / theft of/from a car. The Cronbach's α score for this measure is .65. Low values on the scale indicate few (no) offences during the past year.

Contextual variables

To assess the influence of the social context of the adolescents' neighbourhood of residence on parental knowledge and offending, the study employs measures of collective efficacy and

disorder. The concept of collective efficacy is based on the idea that trusting and cohesive relationships between residents, and their ability to exercise informal social control, are integral components of viable communities, and that communities characterized by these elements will show lower levels of crime and disorder (Sampson, Morenoff, & Earls, 1999; Sampson, Raudenbush, & Earls, 1997). Disorder is a concept whereby incivilities, such as public drinking, or visible signs of litter in the neighbourhood are suggested to be a sign of weakened social control and are expected to lead to increased levels of crime (Wilson & Kelling, 1982). Two different sets of collective efficacy and disorder measures were created to enable comparisons between the adolescents' perceptions of their neighbourhood and a more independent measure based on the responses from the MCS. These scales were developed by Wikström and colleagues (2012).

When answering these questions regarding their neighbourhood, the respondents in both studies were asked to think about an area within a short walking distance, a couple of minutes, around their homes. The contextual variables from the Malmö community survey were aggregated from the individual answers to the neighbourhood level in order to match the neighbourhood of residence of the adolescent respondents in MINDS.

Adolescents' perceptions of neighbourhood characteristics

The adolescents' perceptions of collective efficacy are measured using two subscales, informal social control and social cohesion and trust. Informal social control is an additive scale based on four Likert-type items measuring the adolescents' perceptions of how likely it would be that the adults in their neighbourhood would intervene if young people of their age were skipping school and hanging out in their neighbourhood / spray-painting on the wall of a building / showing disrespect to an adult living in their neighbourhood, or if a group of young people of their age were fighting or beating someone up in their neighbourhood.

The social cohesion and trust measure also takes the form of a scale, and is based on four statements measuring the adolescents' perceptions of social cohesion (and trust) among the adolescents in their neighbourhood: young people who live in my neighbourhood are friendly towards each other / young people who live in my neighbourhood can be trusted / young people who live in my neighbourhood help each other if needed / young people in my neighbourhood share common values.

The two subscales were then combined into a joint index of collective efficacy. The Cronbach's alpha of the combined scale was .73. Low values on the collective efficacy scale indicate low levels of neighbourhood collective efficacy.

Adolescents' perceptions of disorder are limited to observations of social disorder in their neighbourhood. The perceived disorder variable is an additive scale based on four Likert-type items and measures the adolescents' perceptions of youth problems in their neighbourhood. The adolescents were asked how often they saw: Young people who were drunk / Young people using drugs / Young people bullying or attacking others / Young people vandalizing property (e.g. spraying graffiti on buildings, damaging telephone boxes, smashing windows/streetlights, damaging cars or bicycles). The Cronbach's α for this scale is .71. Low values on the scale indicate low levels of disorder.

Neighbourhood characteristics based on MCS

Informal social control is an additive scale based on five Likert-type items measuring how likely it would be that people in the respondents' neighbourhood would be willing to do something if: a group of children were skipping school and hanging out in their neighbourhood / a group of children were spray-painting on the wall of a building / a child was acting disrespectfully towards an adult / there was a fight going on in front of their house and someone was being beaten up or threatened / someone tried to break into a car parked outside their house.

Social cohesion and trust is an additive scale based on five Likert-type statements measuring the respondents' perceptions of social cohesion (and trust) among residents in their neighbourhood: people who live in my neighbourhood are friendly towards each other / people who live in my neighbourhood can be trusted / my neighbourhood is characterized by a strong cohesion among neighbors / people in my neighbourhood share common values. The two subscales were combined into a joint index of collective efficacy. The Cronbach's alpha for the combined scale was .89. The collective efficacy measure is scaled so that low values indicate poor collective efficacy.

Disorder is an additive scale based on eight Likert-type items. The respondents were asked whether any of the following phenomena were perceived as a problem in their neighbourhood: litter in streets and public places / vandalism / run-down buildings and poorly maintained open spaces / young people making trouble and disrupting order / neighbors who are causing a disturbance and causing problems / people being drunk in public places / people

arguing and fighting in public places / people driving recklessly. The Cronbach's α for this scale is .86. Low values on the scale indicate low levels of disorder.

The item-level response was high overall for all of the measures in the study; however, for scales with missing values, imputations were conducted using the estimation-maximization (EM) method in order to minimize loss of information.

Analytic strategy

First, to examine the characteristics of the variables, means, standard deviations and bivariate correlations were calculated for the study variables. Second, to examine how differences in mean levels of parental knowledge and offending are associated with neighbourhood characteristics, one-way analyses of variance (ANOVA) were conducted. For the purpose of the ANOVA analysis, the measures of neighbourhood characteristics were divided into three equal groups representing low, middle and high levels of collective efficacy/disorder. Once it had been determined that there were differences among the means, pairwise multiple comparisons were conducted using Tukey post hoc tests, to define which means differed. Third, an ordinary least square (OLS) regression analysis was conducted to examine the effects of neighbourhood characteristics on parental knowledge. Fourth, three OLS regression analyses were estimated in order to examine how parental knowledge and neighbourhood characteristics are related to, and interact in relation to adolescent offending. The first model tested the impact of the perceived contextual variables on adolescent offending. In the second model, parental knowledge was also included in the model, and in the third and final model, multiplicative interaction terms were created to examine the interaction between parental knowledge and collective efficacy/disorder in the explanation of adolescent offending.

Results

The initial bivariate correlation analysis presented in Table 1 shows that parental knowledge is significantly associated with adolescent offending and with the measures of the adolescents' perceived neighbourhood characteristics from MINDS. Parental knowledge is negatively associated with adolescent offending ($r = -.323$; $p < .001$), indicating that adolescents reporting low levels of parental knowledge are more likely to offend. When it comes to the contextual variables, parental knowledge is positively associated with perceived collective efficacy ($r = .180$; $p < .001$), and negatively associated with perceived disorder ($r = -.187$; $p < .001$), indicating that low levels of parental knowledge are associated with low levels of perceived collective efficacy, and with high levels of perceived disorder. Adolescent

offending is negatively associated with perceived collective efficacy ($r = -.142; p < .001$), and positively correlated with perceived disorder ($r = .141; p < .001$), indicating that high levels of offending are associated with low levels of perceived collective efficacy and high levels of perceived disorder.

The adolescents' perceptions of the contextual variables are significantly associated with the contextual variables from MCS. However, the latter variables are not significantly associated with either parental knowledge or adolescent offending and have therefore been excluded from further analyses.

Table 1 Descriptives and correlations between study variables (n = 514)

	1.	2.	3.	4.	5.	6.	Range	M	SD
1. Parental knowledge	1						0-9	6.04	1.93
2. Perceived collective efficacy	.180***	1					5-32	19.93	4.37
3. Collective efficacy	-.061	.256***	1				19-32	26.29	2.91
4. Perceived Disorder	-.187***	-.363***	-.178***	1			0-10	2.17	2.18
5. Disorder	.041	-.257***	-.836***	.173***	1		3-16	8.27	3.14
6. Adolescent offending	-.323***	-.142***	-.010	.141***	-.034	1	0-4	0.24	0.57

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

Analysis of variance (ANOVA) was conducted to examine mean differences between parental knowledge and adolescent offending based on the adolescents' perceptions of neighbourhood characteristics - collective efficacy and disorder respectively. The analysis of differences in levels of parental knowledge in relation to perceived collective efficacy was significant $F(2, 504) = 7.74, p < .001$, and the post hoc results showed that adolescents living in neighbourhoods with poor collective efficacy reported the lowest levels of parental knowledge ($M = 5.69, SD = 1.93$), compared with those living in neighbourhoods with the highest levels of collective efficacy. The latter group reported the highest levels of knowledge ($M = 6.02, SD = 1.93$). The differences in levels of parental knowledge and perceived disorder were also significant $F(2, 511) = 8.40, p < .001$, and the post hoc test showed that adolescents living in the least disordered neighbourhoods reported significantly higher levels of parental knowledge ($M = 6.32, SD = 1.89$), compared with those living in the most disordered neighbourhoods, who reported lower levels of parental knowledge. ($M = 5.55, SD = 1.93$).

The differences in offending in relation to perceived collective efficacy were significant $F(2, 504) = 5.97, p < .01$, with post hoc tests showing that adolescents living in neighbourhoods with low collective efficacy also reported the highest levels of offending ($M = 0.29, SD =$

0.64), compared to young people in neighbourhoods with the highest levels of perceived collective efficacy, who reported the lowest levels of offending ($M = 0.11$, $SD = 0.35$). The differences in offending in relation to perceived disorder were also significant $F(2, 511) = 6.55$, $p < .01$, showing that adolescents reporting high levels of disorder in their neighbourhood reported the highest levels of offending ($M = 0.34$, $SD = 0.70$), compared to those reporting low levels of disorder, who also reported the lowest levels of offending ($M = 0.15$, $SD = 0.39$).

Table 2 presents results describing how the contextual variables predict parental knowledge. The findings show small but significant correlations, indicating that both collective efficacy and disorder are associated with parental knowledge, with lower levels of perceived collective efficacy and higher levels of perceived disorder predicting less parental knowledge. The amount of variance explained by the contextual variables is 4.9%.

Table 2. OLS regression analysis predicting parental knowledge

Predictors	<i>b</i>	Beta
Perceived collective efficacy	.057**	.129
Perceived disorder	-.124**	-.140
R ²	.049	

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

A multiple regression analysis (see Table 3) examined how parental knowledge, collective efficacy and disorder are associated with offending, and whether there is an interaction between adolescents' perceptions of parental knowledge and their perceptions of disorder / collective efficacy, in relation to adolescent offending. Perceived collective efficacy and disorder are included as predictors in the first model. Collective efficacy is significantly negatively correlated with adolescent offending, indicating that low collective efficacy increases the risk of adolescent offending. Disorder is significantly positively correlated with adolescent offending, indicating that high levels of disorder increase the risk of adolescent offending. In the second model, parental knowledge is included and is significantly negatively correlated with adolescent offending. This indicates that poor parental knowledge increases the risk of offending. In this model, the effects of collective efficacy and disorder are no longer significant. In the final model, interaction terms for parental knowledge and collective efficacy/disorder are introduced. Parental knowledge and collective efficacy interact significantly in the explanation of adolescent offending. These results indicate that the effect

of collective efficacy is conditional on parental knowledge in predicting adolescent offending. The effect of parental knowledge remained significantly correlated with offending and was not affected by the interaction terms. This interaction was also examined by splitting the sample into two equal groups based on levels of collective efficacy (high-low), in order to further investigate how the effects of parental knowledge operate in relation to the adolescents' perceptions of neighbourhood collective efficacy. Z-scores (see Paternoster et al., 1998) were calculated to compare whether the regression coefficients specifying the effect of parental knowledge differ between the two groups. This analysis confirms that the effect of parental knowledge on offending is stronger in neighbourhoods where collective efficacy is perceived to be low ($z = -2.06 < .05$).

Table 3. OLS regression analysis predicting adolescent offending

Predictors	Model 1		Model 2		Model 3	
	<i>b</i>	Beta	<i>b</i>	Beta	<i>b</i>	Beta
Perceived collective efficacy	-.013*	-.103	-.008	-.064	-.010	-.074
Perceived disorder	.028*	.107	.017	-.065	-.017	-.065
Parental knowledge			-.088***	-.299	-.087***	-.295
Knowledge x Collective efficacy					.066**	.113
Knowledge x Disorder					-.015	-.027
R2	.104		.115		.130	

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

Discussion

The overarching aim of this study was to examine whether adolescents' perceptions of parental knowledge differ by neighbourhood characteristics, and how parental knowledge and neighbourhood characteristics are related to, and interact in predicting adolescent offending. The initial bivariate analysis showed that neighbourhood characteristics are associated with parental knowledge and that neighbourhood characteristics and parental knowledge are both associated with adolescent offending. These findings only applied when the measures of neighbourhood characteristics were based on the adolescents' perceptions. The measures of collective efficacy and disorder based on data from the community survey were not significantly correlated with either parental knowledge or adolescent offending.

With respect to the first question, whether there seem to be differences in parental knowledge in relation to neighbourhood characteristics, the findings indicate that parental knowledge

does differ on the basis of perceived neighbourhood characteristics. Adolescents who perceive lower levels of collective efficacy and higher levels of disorder in their neighbourhood also perceive poorer parental knowledge. They also seem to offend more frequently. On the one hand, these findings provide some support for research arguing that families living in neighbourhoods with low levels of informal control also seem to monitor their children less (Simons et al., 1996; Simons et al., 1997). On the other hand, the findings also provide some support for research indicating that parents with more effective parenting strategies also tend to live in less risky (here less disordered) neighbourhoods (Byrnes et al., 2011).

The findings also show that with regard to the prediction of offending, parental knowledge appears to be what matters most. The small effect of neighbourhood characteristics disappeared once parental knowledge was included in the analysis. However, the findings showed the existence of a significant interaction between parental knowledge and collective efficacy. This interaction indicates that collective efficacy has a different effect on offending for adolescents with different levels of parental knowledge, indicating that the effect of parental knowledge on adolescent offending is stronger in neighbourhoods with low perceived collective efficacy. Taken together, parental knowledge is more important than neighbourhood characteristics in predicting adolescent offending, and it also appears likely that parental knowledge may protect against negative neighbourhood influences.

Another interesting finding is that it was only the adolescents' perceptions of neighbourhood characteristics that were significantly related to parental knowledge and adolescent offending. Since previous research on neighbourhood effects on adolescent outcomes has usually directed its focus at adults' assessments of neighbourhood characteristics, these findings add interesting new knowledge to the literature. These results indicate that adolescents' perceptions of neighbourhood characteristics constitute a better predictor of adolescent offending, and that independent measures of neighbourhood characteristics may not be successful in predicting offending at the individual level. Previous research has shown that perceived neighbourhood disorder is not necessarily associated with the objective level of disorder, and based on this finding, Sampson and Raudenbush (2004) have argued that it may be perceptions of disorder that are important for outcomes, not the actual level of disorder in a neighbourhood. Findings from the present study show that adolescents' own perceptions of the social context of the neighbourhood in which they live are certainly important for the understanding of adolescent behavior, which is something that has also been argued in previous research (Fagg, Curtis, Clark, Congdon, & Stansfeld, 2008). In addition, it has been

argued that adolescents' perceptions and experiences of their neighbourhoods differ from those of adults (Curtis et al., 2013; Spilsbury et al., 2012). The use of two different sources of data in the present study to measure neighbourhood characteristics and how these are related to parental knowledge and adolescent offending gives us a more nuanced understanding of the importance of adolescents' own perceptions of the neighbourhood in relation to their offending. However, even though the findings suggest that what matters are adolescents' own perceptions, one cannot overlook the possibility of "same source bias" in this case, since both the outcome variables and the predictors are based on adolescents' perceptions.

These findings showing that "same-level" data seem to be important in predicting differences in both parental knowledge and offending are of interest for further examination. With regard to previous research indicating that there are likely to be differences in perceptions and experiences of a neighbourhood's characteristics between adolescents and adults (Curtis et al., 2013; Morrow, 2001; Spilsbury, Korbin, & Coulton; 2009; 2012), future research would be able to add to the existing literature by including both parents' and their children's perceptions of neighbourhood characteristics and parental knowledge, in order to further examine how these different perceptions are related, and also how they are related to and interact with adolescent offending. We are also aware of differences between parents' and their children's perceptions of parental knowledge (see Abar, Jackson, Colby, & Barnett, 2015; Cottrell et al., 2003).

Taken together, the findings indicate that adolescents' perceptions of neighbourhood characteristics are related to parental knowledge to a certain extent. However, being knowledgeable about your child's whereabouts, activities and peers, seems to be the most important protective factor when it comes to adolescent offending. The study's findings also indicate that adolescents' perceptions of parental knowledge constitute a protection against perceived negative neighbourhood influences. The study also found interesting results related to the level at which data were measured, indicating that independent measures of neighbourhood characteristics do not predict individual offending, whereas perceptions of neighbourhood characteristics do.

References

- Abar, C. C., Jackson, K. M., Colby, S. M., & Barnett, N. P. (2015). Parent-child discrepancies in reports of parental monitoring and their relationship to adolescent alcohol-related behaviors. *Journal of Youth and Adolescence*, 44(9), 1688-1701. doi:10.1007/s10964-014-0143-6
- Armistead, L., Forehand, R., Brody, G., & Maguen, S. (2002). Parenting and child psychosocial adjustment in single-parent African American families: Is community context important? *Behavior Therapy*, 33(3), 361-375. doi:10.1016/S0005-7894(02)80033-8
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Burton, L. M. (1990). Teenage childbearing as an alternative life-course strategy in multigeneration black families. *Human Nature*, 1(2), 123-143. doi:10.1007/BF02692149
- Byrnes, H. F., Miller, B. A., Chen, M., & Grube, J. W. (2011). The roles of mothers' neighborhood perceptions and specific monitoring strategies in youths' problem behavior. *Journal of Youth and Adolescence*, 40(3), 347-360. doi:10.1007/s10964-010-9538-1
- Ceballo, R., & McLoyd, V. C. (2002). Social support and parenting in poor, dangerous neighborhoods. *Child Development*, 73(4), 1310-1321. doi:10.1111/1467-8624.00473
- Cottrell, L., Li, X., Harris, C., D'Alessandri, D., Atkins, M., Richardson, B., & Stanton, B. (2003). Parent and adolescent perceptions of parental monitoring and adolescent risk involvement. *Parenting: Science and Practice*, 3(3), 179-195. doi:10.1207/S15327922PAR0303_01
- Curtis, S., Pain, R., Fuller, S., Khatib, Y., Rothon, C., Stansfeld, S. A., & Daya, S. (2013). Neighbourhood risk factors for common mental disorders among young people aged 10-20 years: A structured review of quantitative research. *Health & Place*, 20, 81-90. doi:10.1016/j.healthplace.2012.10.010

- Dishion, T. J., & McMahon, R. J. (1998). Parental monitoring and the prevention of child and adolescent problem behavior: A conceptual and empirical formulation. *Clinical Child and Family Psychology Review*, 1(1), 61-75. doi:10.1023/A:1021800432380
- Fagg, J., Curtis, S., Clark, C., Congdon, P., & Stansfeld, S. A. (2008). Neighbourhood perceptions among inner-city adolescents: Relationships with their individual characteristics and with independently assessed neighbourhood conditions. *Journal of Environmental Psychology*, 28(2), 128-142. doi:10.1016/j.jenvp.2007.10.004
- Hoeve, M., Dubas, J. S., Eichelsheim, V. I., Van Der Laan, Peter H, Smeenk, W., & Gerris, J. R. (2009). The relationship between parenting and delinquency: A meta-analysis. *Journal of Abnormal Child Psychology*, 37(6), 749-775. doi:10.1007/s10802-009-9310-8
- Ivert, A. K., & Levander, M. T. (2014). Adolescents' perceptions of neighbourhood social characteristics—Is there a correlation with mental health? *Child Indicators Research*, 7(1), 177-192. doi:10.1007/s12187-013-9210-x
- Jones, S., & Lynam, D. R. (2009). In the eye of the impulsive beholder: The interaction between impulsivity and perceived informal social control on offending. *Criminal Justice and behavior*, 36(3), 307-321. doi:10.1177/0093854808328653
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology*, 36(3), 366-380. doi:10.1037/0012-1649.36.3.366
- Kohen, D. E., Leventhal, T., Dahinten, V. S., & McIntosh, C. N. (2008). Neighborhood disadvantage: Pathways of effects for young children. *Child Development*, 79(1), 156-169. doi:10.1111/j.1467-8624.2007.01117.x
- Lambert, S. F., Brown, T. L., Phillips, C. M., & Ialongo, N. S. (2004). The relationship between perceptions of neighborhood characteristics and substance use among urban African American adolescents. *American journal of community psychology*, 34(3-4), 205-218. doi:10.1007/s10464-004-7415-3

- Leventhal, T., & Brooks-Gunn, J. (2000). The neighborhoods they live in: The effects of neighborhood residence on child and adolescent outcomes. *Psychological Bulletin*, 126(2), 309.
- Morrow, V. (2001). *Networks and neighbourhoods: Children's and young people's perspectives*. Health Development Agency: London.
- Paternoster, R., Brame, R., Mazerolle, P., & Piquero, A. R. (1998). Using the correct statistical test for the equality of regression coefficients. *Criminology*, 36, 859-866. doi:10.1111/j.1745-9125.1998.tb01268.x
- Pinderhughes, E. E., Nix, R., Foster, E. M., & Jones, D. (2001). Parenting in context: Impact of neighborhood poverty, residential stability, public services, social networks, and danger on parental behaviors. *Journal of Marriage and Family*, 63(4), 941-953. doi:10.1111/j.1741-3737.2001.00941.x
- Pratt, T. C., Turner, M. G., & Piquero, A. R. (2004). Parental socialization and community context: A longitudinal analysis of the structural sources of low self-control. *Journal of Research in Crime and Delinquency*, 41(3), 219-243. doi:10.1177/0022427803260270
- Rankin, B. H., & Quane, J. M. (2002). Social contexts and urban adolescent outcomes: The interrelated effects of neighborhoods, families, and peers on African-American youth. *Social Problems*, 49(1), 79-100. doi:10.1525/sp.2002.49.1.79
- Sampson, R. J., Morenoff, J. D., & Earls, F. (1999). Beyond social capital: Spatial dynamics of collective efficacy for children. *American Sociological Review*, 64(5), 633-660.
- Sampson, R. J., & Raudenbush, S. W. (2004). Seeing disorder: Neighborhood stigma and the social construction of "broken windows". *Social Psychology Quarterly*, 67(4), 319-342.
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science (New York, N.Y.)*, 277(5328), 918-924. doi:10.1126/science.277.5328.918
- Simons, R. L., Johnson, C., Beaman, J., Conger, R. D., & Whitbeck, L. B. (1996). Parents and peer group as mediators of the effect of community structure on adolescent problem

- behavior. *American Journal of Community Psychology*, 24(1), 145-171.
doi:10.1007/BF02511885
- Simons, R. L., Johnson, C., Conger, R. D., & Lorenz, F. O. (1997). Linking community context to quality of parenting: A study of rural families. *Rural Sociology*, 62(2), 207-230. doi:10.1111/j.1549-0831.1997.tb00651.x
- Simons, R. L., Simons, L. G., Burt, C. H., Brody, G. H., & Cutrona, C. (2005). Collective efficacy, authoritative parenting and delinquency: A longitudinal test of a model integrating community – and family-level processes. *Criminology*, 43(4), 989-1029. doi:10.1111/j.1745-9125.2005.00031.x
- Smetana, J. G., Robinson, J., & Rote, W. M. (2015). Socialization in adolescence. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of Socialization: Theory and Research* (2nd ed., pp. 60-84). New York: The Guilford Press.
- Spilsbury, J. C., Korbin, J. E., & Coulton, C. J. (2009). Mapping children's neighborhood perceptions: Implications for child indicators. *Child Indicators Research*, 2(2), 111-131. doi:10.1007/s12187-009-9032-z
- Spilsbury, J. C., Korbin, J. E., & Coulton, C. J. (2012). "Subjective" and "Objective" views of neighborhood danger & well-being: The importance of multiple perspectives and mixed methods. *Child Indicators Research*, 5(3), 469-482. doi:10.1007/s12187-012-9165-3
- Stern, S. B., & Smith, C. A. (1995). Family processes and delinquency in an ecological context. *The Social Service Review*, 69(4), 703-731. doi:10.1086/604154
- Trucco, E. M., Colder, C. R., Wieczorek, W. F., Lengua, L. J., & Hawk, L. W., Jr. (2014). Early adolescent alcohol use in context: How neighborhoods, parents, and peers impact youth. *Development and Psychopathology*, 26(2), 425-436. doi:10.1017/S0954579414000042
- Wikström, P. H., Oberwittler, D., Treiber, K., & Hardie, B. (2012). *Breaking rules: The social and situational dynamics of young people's urban crime*. Oxford: Oxford University Press.
- Wilson, J. Q., & Kelling, G. L. (1982). Broken windows. *Atlantic Monthly*, 249(3), 29-38.

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the development of adolescents. A key issue within the field of criminology is how differences in adolescent behavior, such as the development of deviant behavior and adolescent offending may be explained by family influences. The focus in this thesis is whether the young person's offend or not as a consequence of lack of parental control and in their socialization of the young person's when it comes to follow norms and values shared by the society overall. Family influences seem to be central in adolescence. However, there are different ways to examine differences in adolescent behavior and different aspects to further explore, like gender differences. Both theoretically and empirically there are contradictory findings in relation to social bonding and in the parent-child attachment. We need further knowledge on this topic. Parental control is a central concept, however, is not simply understood and interpreted. It is usually measured as parental knowledge, but has also been defined as monitoring and knowledge in relation to the child's activities and colleagues, and sometimes supervision, in its more strict and active form. Monitoring has not only been effective in preventing adolescent offending and/or substance use, but also in preventing adolescents from being involved with deviant peers, or to criminogenic exposure. Since parents are a key social institution in affecting adolescent's crime propensity, they are also seen as important in preventing crime. Data in the thesis are drawn mainly from the longitudinal project MINDS and therefore, it is possible to study situations in certain environments, or settings. For example, one topic in the thesis is context for parenting and how parenting practices are affected by contexts outside the family, like e.g. peers.