



JÖNKÖPING UNIVERSITY

School of Health and Welfare

Doctoral Thesis

Mutual actions - Developmental links between aspects of the parent- adolescent relationship and adolescent risk behaviors

Sabina Kapetanovic

Jönköping University
School of Health and Welfare
Dissertation Series No. 096 • 2019



JÖNKÖPING UNIVERSITY
School of Health and Welfare

Doctoral Thesis

Mutual actions - Developmental links between aspects of the parent- adolescent relationship and adolescent risk behaviors

Sabina Kapetanovic

Doctoral Thesis in Welfare and Social Sciences

Mutual actions - Developmental links between aspects
of the parent-adolescent relationship and adolescent risk
behaviors

Dissertation Series No. 096

© 2019 Sabina Kapetanovic

Published by
School of Health and Welfare, Jönköping University
P.O. Box 1026
SE-551 11 Jönköping
Tel. +46 36 10 10 00
www.ju.se

Printed by BrandFactory AB 2019

ISSN 1654-3602

ISBN 978-91-85835-95-9

*“Somewhere ages and ages hence:
Two roads diverged in a wood, and I —
I took the one less traveled by,
And that has made all the difference.”*

- Robert Frost

Abstract

During adolescence youths spend more time away from parents' direct supervision which provides opportunities for engagement in risk behaviors such as delinquency and substance use. The overall aim of the dissertation was to investigate how parent- and adolescent-driven communication efforts occurring in the parent-adolescent relationship relate to risk behaviors in early to mid-adolescence. The concepts of parental knowledge and its sources (parental solicitation, parental behavioral control, and adolescent disclosure), parent-adolescent connectedness, parental self-efficacy, adolescent temperament and gender were included in the studies. All participants were recruited from the Swedish Longitudinal Research Program on Development In Adolescence (LoRDIA) and were in early- to mid-adolescence.

In **Study I**, cross-sectional associations between parental knowledge and its sources and adolescent delinquency, bullying and substance use were investigated among 1520 early adolescents. Structural path analysis showed that adolescent disclosure was informative to parents and both directly and indirectly, through parental knowledge, negatively linked to adolescent risk behaviors. Parental behavioral control was negatively linked to adolescent substance use while parental solicitation and adolescent feelings of being overly controlled were positively linked to adolescent risk behaviors. This was particularly true for boys. In **Study II**, the associations among parent-reported parent-adolescent connectedness, parental self-efficacy, parental knowledge and its sources and their longitudinal links to adolescent self-reported delinquency and substance use were investigated in a sample of 550 parent-early adolescent dyads. Adolescent disclosure, parental solicitation, and parental behavioral control predicted parental knowledge. Adolescent disclosure was directly and indirectly related to lower levels of adolescent risk behaviors. Parental self-efficacy and parent-adolescent connectedness were indirectly linked to higher levels of parental knowledge and its sources, as well as to lower levels of substance use and delinquency. In **Study III**, the moderating effect of adolescent temperament type on longitudinal links among parental knowledge, its sources, and substance use was investigated among 1373 early adolescents. Five distinct temperament types were found. The bidirectional link between adolescent disclosure and substance use, and

the link between parental solicitation and adolescent substance use differed depending on adolescent temperament type. In **Study IV**, also longitudinal, the links among parental behavioral control, parental solicitation, adolescent disclosure, and delinquency were investigated at the within-family and the between-family level among 1515 early to mid-adolescents. Within-family, cross-lagged effects showed that adolescent disclosure was reciprocally related to both parental solicitation and adolescent delinquency, parental behavioral control negatively predicted adolescent delinquency, and parental solicitation negatively predicted parental control.

The findings suggest that both parents and adolescents actively contribute to parent-adolescent relationships and whether or not adolescents engage in risk behaviors. Reciprocal processes occur within families between aspects of parent-adolescent communication and adolescent delinquency, in which especially adolescent disclosure plays a prominent role. What effect aspects of parent-adolescent communication have on adolescent behavior can, however, differ depending on individual adolescent characteristics.

Original papers

Study I

Kapetanovic, S., Bohlin, M., Skoog, T., Gerdner, A. (2017). Structural relations between sources of parental knowledge, feelings of being overly controlled and risk behaviors in early adolescence. *Journal of Family Studies*. Advance online publication, DOI: 10.1080/13229400.2017.1367713

Study II

Kapetanovic, S., Skoog, T., Bohlin, M., & Gerdner, A. (2019). Aspects of the Parent-Adolescent Relationship and Associations with Adolescent Risk Behaviors over Time. *Journal of Family Psychology*, 33(1), 1-11 DOI: 10.1037/fam0000436

Study III

Kapetanovic, S., Skoog, T., Bohlin, M., & Gerdner, A. (2019). Does One Size Fit All? – Linking Parenting with Adolescent Substance Use and Adolescent Temperament. *Journal of Research on Adolescence*. Advance online publication, DOI: 10.1111/jora.12489

Study IV

Kapetanovic, S., Boele, S., & Skoog, T. (submitted manuscript). The Parent-Adolescent Communication and Adolescent Delinquency: Unraveling within-family processes from between-family differences.

Study I has been reprinted with permission from Taylor & Francis

Study II has been reprinted with permission from American Psychological Association

Study III has been reprinted with permission from John Wiley & Sons

Acknowledgements

This part of my journey has come to an end. The past five years have been insightful and exciting and had a major impact on my personal and professional development. There are so many incredible people I would like to thank for sharing this experience with me and supporting me along the way.

First and foremost, I am grateful to my supervisors, who have been with me through all these years. Arne, thank you for an opportunity to grow together with LoRDIA. You have challenged my ideas, but you have also believed in me and my abilities as a researcher. Thank you for being supportive and for opening so many new doors for me. Maggan, you introduced me to the world of academics and encouraged me to become a PhD student. Thank you for the pep talks when I needed them. Finally, Therese, you have been such an inspiration to me. I am grateful for your encouragement and helping me to set goals that were high and for teaching me how to be a better researcher. I am infinitely happy you decided to join me on this trip. Thank you!

Emma Sorbring, I am grateful for your giving me the opportunity to find my way in the world of academia, not least by including me in the network of Child and Youth Studies. Håkan Stattin, thank you for giving me excellent advice and guidance when reviewing my thesis. It means a lot that you wanted to take part in this process. I also want to thank Lena Almqvist, Isabelle Johansson, Björn Jonsson, and my colleagues in BUFSS and SALVE for insightful discussions of my thesis and papers. Savannah Boele and Loes Keijsers, thank you for the collaboration on one of my studies. I learned so much from discussing parenting and statistical methods with you. Anna H, Lena and Lisa, thank you for finding ways to make my agenda more manageable. Henrik, Maria and Carina, thank you for your valuable assistance. Anna D and Petri, thank you for your thoughts on some of my papers. To my fellow doctoral students at University West: thanks for the talks and discussions. Also, I want to show appreciation to my colleagues at the Research School of Health and Welfare for insightful seminars and talks around the coffee table. Jan Mårtensson and Karolina Boberg, thank you for always finding ways to provide answers to my questions.

There are other people that have stood by my side during these past few years. Jennie, it all started in Estonia and there was no turning back. I want to thank you for being a friend and a colleague. We work well together as a team! Magdalena, you and I started at the research school at the same time and found each other straight away. I am glad we became friends and colleagues. Birgitta and Frida, we have had our fair share of fun collecting data for LoRDIA, having fine dinners and discussing our plans for research. My other fellow “LoRDIAns”, Johan, Russell and Karin, thank you for the talks and our experiences together. Russell we still have some work to do on the MCMC:s and I’m looking forward to working together with you. Karin, I think Gibraltar brought us together and I’m looking forward to doing more studies and conferences with you. Sevtap, Anders, and Jonas: thank you for the insightful discussions, jokes and for the pep-talks. Claudia, you are not only brilliant but also fun to be around and I want to thank you for always finding ways to help me out with my impossible problems with Word.

I am also so grateful to my friends and family. Without you I would never have been able to be what I am. You have shown me that life is so much more than work. Dani, Beki, Emina & Mirry, you are the best of the best! You are always there for me. Sabina, my childhood friend, times go by, but you and I still complete each other! Annie, thanks for the talks and opportunities to think about stuff other than work. Srdjan, thank you for the laughs, and reminding me to slow down. Dijana and Ado, I appreciate your friendship and your encouragement greatly. Renata and Magdalena, thank you for being so open, so kind, and always supportive! I also want to thank my parents, for being supportive of my decisions, and for helping me out when needed. You have never doubted my abilities and you inspire me to never give up!

Finally, I want to thank Baćo, Nelly and Liam. Thank you for putting up with my travels, papers all around the house, and always carrying my computer with me. Thank you for being patient and for your kind support. Baćo, if it wasn’t for you, this journey would have been far more difficult. You have listened and you have encouraged me whenever it was hard.

I love you so much!

Trollhättan, May 2019

Sabina Kapetanović

Contents

Introduction	1
The developmental period of adolescence	5
Adolescent engagement in risk behaviors	6
Parent-adolescent relationships	9
Developmental perspective on parenting	10
Parental monitoring	12
Sources of parental knowledge.....	14
Parent-adolescent communication and adolescent risk behaviors.....	14
Reciprocal relations between parents and adolescents	16
Parents and adolescents in an interplay	19
Parental self-efficacy	19
Perceived connectedness between parents and adolescents	20
Adolescent gender	21
Adolescent temperament	22
Gaps of knowledge	24
Aims of the dissertation.....	26
Material and methods	29
The LoRDIA Research Program	29
The LoRDIA study population.....	29
Data collection procedure.....	30
Ethical considerations.....	32
Measures.....	35
Study design	39
Study I	40
Study II.....	42
Study III.....	44

Study IV	46
Results and conclusions	48
Study I	48
Study II.....	49
Study III	51
Study IV	53
General discussion.....	55
Adolescents' and parents' efforts in parenting.....	59
The role of parents' beliefs.....	66
Adolescent gender and temperament	68
Methodological discussion.....	71
Limitations and strengths	72
Practical implications	75
Where do we go from here?	78
Conclusions	80
Populärvetenskaplig sammanfattning.....	82
Studie I	83
Studie II.....	84
Studie III.....	84
Studie IV	85
Slutsatser	86
References	88
Appendix 1	110
Appendix 2	111

Introduction

The teenage years can be challenging for both adolescents and their parents. Once entirely dependent on their parents, adolescents now make more of their own decisions, and spend less time at home and more time with peers (Laursen & Collins, 2009). Being outside of the home and direct parental supervision, provides adolescents with opportunities to engage in risk behaviors. Particularly during early adolescence, some adolescents start experimenting with tobacco and alcohol (Schulenberg & Maggs, 2002) or engage in bullying, defined as repeated aggression toward those who are disadvantaged (Olweus, 1993). Some boys and girls also start engaging in delinquent behaviors (Siegel & Welsh, 2012). Such behaviors are illegal and deviate from social norms (Estrada & Flyghed, 2017) and include shoplifting and vandalism, as well as car theft and dealing with drugs (Junger-Tas, 2012). Engagement in such activities may be harmful for adolescent psychosocial development. According to the United Nations Convention on the Rights of the Child (CRC, 1989; 3:2), parents are responsible for “ensur[ing] the child [has] such protection and care as is necessary for his or her well-being.” That means that, although adolescents’ development can be influenced by many different factors (biological, psychological and/or social), parents still have an important role to play in order to keep their adolescents away from harm and harmful activities. Thus, what parents do and what the parent-adolescent relationship is like, are central for adolescent psychosocial development.

According to early social-control theories (e.g. Hirschi, 1969), engagement in risk behaviors is related to poor internal controls, as a result of disrupted parent-child bonds. Traditionally, parents are seen as agents who, by different means of control, can integrate their child into society (Baumrind, 1966). Accordingly, parental monitoring, or “giving attention to and tracking of the child’s whereabouts, activities and adaptations” (Dishion & McMahon, 1998, p. 61) is thought of as a major element of healthy parenting. As a result, parenting literature often suggests that through supervision, parents could obtain knowledge of adolescents’ activities, which would enable them to impose adequate parenting strategies to help their adolescents grow into healthy individuals who do not engage in risk behavior.

There are, however, at least three problems in the parenting literature that need to be addressed. The first and main problem is that the link between parents and adolescents is mainly studied as unidirectional, assuming that parents' actions influence their adolescents' behavior (e.g. Barnes et al., 2006; Hirschi, 1969). The seminal work of Stattin and Kerr (2000) and colleagues (Kerr et al., 1999) suggests otherwise. Including the child in the links between parenting and child development, the authors found that parents mainly obtain knowledge of adolescents' whereabouts through adolescents' voluntary sharing of information (*adolescent disclosure*), which, in turn, is linked to adolescent risk behaviors. Parenting practices, such as "gathering information about children's activities by asking the children themselves and talking with their friends" (*parental solicitation*) or "controlling adolescents' freedom to simply come and go as they please" (*parental behavioral control*), seem to matter less (Kerr & Stattin 2000, p. 367). Thus, including both adolescents' and parents' efforts in communication would more coherently show the dynamics in parent-adolescent interactions and adolescent development.

Another problem is that parenting models rarely include parental self-efficacy and parent-adolescent emotional bonds as mechanisms in parent-adolescent interactions. How parents perceive their role as parents, and their relationships with their adolescents (McGillicuddy-De Lisi & Sigel, 2002), could influence what parental strategies they use and adolescents' willingness to share information with their parents.

A third and final major problem is that the role of adolescent interpretations of parents' actions and adolescent characteristics, such as temperament and gender, in links between parenting and adolescent development are rarely considered. Parenting efforts and adolescents' responses to those efforts may have different meaning for adolescent development, depending on, for instance, adolescents' temperamental tendencies (Belsky et al., 2007), which is why adolescent characteristics should be included in parenting models. Taken together, these shortcomings in the literature mask the existent processes that happen in parent-adolescent interactions as well as adolescent psychosocial development. Including the role of the adolescent in the parent-adolescent relationship, and unpacking the mechanisms in parent-adolescent

interactions, will provide a clearer picture of the processes in parent-adolescent relationships and adolescent development.

To obtain more insight into the developmental processes in parent-adolescent relationships and adolescent risk behaviors, I place adolescent development and parent-adolescent relationships within the framework of developmental psychology. I investigate how parent- and adolescent-driven communication efforts in parent-adolescent relationships relate to the development of risk behaviors in adolescence.

The developmental period of adolescence

Adolescence is the period of dramatic physical, cognitive and social changes that happen in the transition between childhood and adulthood. Although there is no true consensus on when adolescence starts and ends, experts sometimes use puberty or the transition to middle school as markers for the beginning of adolescence (Steinberg, 2014). At that stage, adolescents experience intense bodily changes (Skoog, 2008) and their logical reasoning rapidly develops (Steinberg, 2010), sensation-seeking increases as well as boredom (Schulenberg et al., 2016). Adolescents' social interactions also change. Compared to children, whose interactions with parents are relatively stable and harmonious (Collins et al., 2002), during adolescence, autonomy striving enhances as well as the need to individuate from parents (Steinberg & Silk, 2002). Adolescents aspire to equal power between themselves and their parents and consider certain issues that previously were handled by parents as matters of personal jurisdiction (Smetana, 1988). Besides changes in the parent-adolescent relationship, another important social change is the increased level of time spent outside of parents' direct control (Laursen & Collins, 2009). Compared with children, adolescents spend more time away from parents (Steinberg & Silk, 2002) and more time engaging with peers. The interest in everyday activities may now change and adolescents can find themselves engaging in activities that psychologically or socially are not always good for them.

Because of the psychosocial changes in adolescence, this period of human life is sometimes referred to as the period of heightened *Sturm und Drang* (i.e. storm and stress) (Hall, 1904). According to this view, adolescence is characterized by mood disruptions, parent-child conflicts and an inclination toward risk behaviors (Arnett, 1999; 2006). Most adolescents do not have a turbulent period of adolescence; however, adolescents in general, more than any other age group, are likely to experience psychosocial difficulties in life (Steinberg, 2001). Thus, adolescence can be a period of heightened vulnerability. Studying development during adolescence would help in

understanding challenges that young people may go through and what predicts successful navigation of those challenges.

Adolescent engagement in risk behaviors

With the rapid developmental changes that come with adolescence, some adolescents start engaging in behaviors that can potentially be harmful for their development. For example, engaging in some behaviors can impose a risk of jeopardizing the accomplishment of normal developmental tasks, such as obtaining the sense of self and attaining optimal preparation for the transition to adulthood (Jessor, 1991). For example, harassing peers, drinking alcohol, or vandalizing a property are behaviors that can impede a successful adolescent development. Such behaviors are called “risk behaviors” because they put normal development at risk for negative outcomes (Jessor, 1991). Although most adolescents who engage in risk behaviors outgrow their engagement in such behaviors (Moffitt, 1993; Schulenberg & Maggs, 2002), for some adolescents, involvement in risk behaviors may result in personally, socially, or developmentally undesired outcomes in the adolescents’ life courses.

When is the onset for adolescent engagement in risk behaviors? According to a recent Swedish study, 15-20 percent of early adolescents report that they had their alcohol debut at age 14 (Ander et al., 2019). Although the numbers are generally lower than during earlier decades, in a 2018 report from The Swedish Council for Information on Alcohol and other Drugs (CAN), 39% of adolescents in the 9th grade (approx. 15 years old) had drunk alcohol during the past twelve months (Zetterqvist, 2018). In addition, early adolescence seems to be a critical developmental period for engagement in delinquency. Early adolescents who engage in delinquency often start with minor offences, such as vandalism and shoplifting (Junger-Tas, 2012). According to the Swedish National Council for Crime Prevention (Frenzel, 2016) around 49% of adolescents in the 9th grade had committed some minor criminal offense, such as shoplifting, vandalizing or being violent against others. Although bullying also occurs among children of younger ages, it seems to occur more frequently among early and mid-adolescents (Friends, 2018). According to the Public Health Agency of Sweden (2018), six to eleven percent of 13-year-old

girls and boys report that they have bullied others, although the numbers may be higher. Moreover, in comparison to children and late adolescents, early adolescents show the highest propensity for risk taking (Steinberg; 2008; 2010). While risk behavior increases during early adolescence it decreases during the transition to middle or late adolescence (Collado et al., 2014). Hence, early adolescence seems to be the critical period for involvement in risk behaviors.

So, why do adolescents engage in risk behaviors? One explanation for adolescent engagement in risk behaviors is that it is a normative or inherent part of adolescence (Lerner & Galambos, 1998; Schulenberg et al. 2016). This can be attributed to the neuroendocrinological changes during puberty. Indeed, some important hormonal changes occur at the early stages of puberty: during adrenarche, there is an increase in secretion of androgens from the adrenal glands, and during gonadarche there is the release of the hormone gonadotropin and maturation of the gonads, which stimulates sexual motivation (Skoog, 2008). The change in the hormonal system in adolescence contributes to increased sexual exploration and aggression (Skoog & Stattin, 2014; Stattin & Skoog, 2016). Thus, changes in adolescent risk-taking can be a result of hormonal changes during puberty.

In addition, some important changes in the dopaminergic system take place, having an impact on adolescent behavior (Steinberg, 2008). For example, the dopamine system which plays an important role in affective and emotional regulation, seems to be more motivational than inhibitory toward novelty during adolescence (Chambers et al., 2002). In other words, the activity in the dopamine system motivates adolescents to search for novelty or rewards, heightening their sensation seeking. However, according to the dual systems model of adolescent risk taking, the increased reward seeking precedes the maturation of the cognitive control system which normally permits self-regulation and control (Steinberg, 2008; 2010). Because of that, adolescents, more than children or adults, experience engagement in risk behaviors as rewarding and pleasurable and this thereby reinforces the behavior.

Another way of explaining adolescent risk behaviors is through a focus on functionality in the behaviors. According to the evolutionary perspective on

adolescent risk behaviors, behaviors such as adolescent drinking, minor delinquency and bullying are appraised through gains and losses, or benefits and costs (Ellis et al., 2012). Despite potential long-term costs, if risk behavior prevails more as gain than loss, adolescents will engage in risk behaviors. Such benefits could be gains in social status, dominance or prestige, despite peers being harmed, or properties being damaged. Accordingly, adolescents engage in risk behaviors to form stronger peer bonds or cope with social expectations (Schulenberg et al., 2016). As identity formation is one part of the development in adolescence, adolescents can use their involvement in risk behaviors as a means to explore their identity (Lerner & Galambos, 1998). For some adolescents, engagement in risk behaviors can also be an act of resistance and a quest for power in the adult world (Johansson & Lalander, 2012). As proposed by Moffitt (1993), some adolescents may want to mimic other “more experienced” peers in order to feel more mature. Through, for example, careful planning of how much alcohol they drink, where to drink, and with whom, they can show that they have control of behaviors usually prescribed to adults (Ander et al., 2017). In line with these ideas, engagement in risk behaviors can be a normative part of adolescence, serving a certain purpose in adolescent development.

Albeit the functionality in the risk behaviors, engagement in such behaviors can also have negative consequences for adolescent development. Early involvement in alcohol use or the vandalizing of properties, as well as maltreatment of peers, can have consequences for adolescents, as well as for society. For example, adolescents with early tobacco, alcohol, or drug debuts are more likely to develop substance abuse later in young adulthood (Moss et al., 2014). Over-consumption of alcohol – consuming more than five drinks on one occasion – during adolescent years, is also associated with substance abuse in young adulthood (Patrick & Schulenberg, 2014). Moreover, adolescents, who engage in substance use, are concurrently (McAdams et al., 2014) as well as longitudinally (Mason & Windle, 2002) more likely to engage in delinquency. In turn, when adolescents engage in delinquent behaviors, they are more likely to start using drugs (Turner et al., 2018), show poor academic achievement, drop out of school (Battin-Pearson et al., 2000), engage in antisocial behavior (Lanctôt et al., 2007) and have poor labor outcomes in adulthood (Healey et al., 2004). For example, one longitudinal study on the life success of males shows that individuals who engaged in

delinquency during adolescence had poor psychological functioning (such as low self-esteem and psychosomatic symptoms), low incomes, were often unemployed, and engaged in heavy drinking as adults (Pulkkinen et al., 2009). Such results indicate that adolescent involvement in risk behaviors may have serious negative consequences for the individual's development.

In light of the literature review above, early adolescence seems to be a critical period for the development of risk behaviors. Whether the engagement in risk behaviors is continuous, thus having a lifelong trajectory (Moffitt, 1993), or discontinuous, thus changing in line with the changing developmental or contextual forces, is debated (Schulenberg et al., 2016). Nonetheless, from earlier research we know that adolescents' contexts matter for the development of risk behaviors. For example, studies show that adolescents who have close parent-adolescent relationships (Janssen et al., 2014) and parent support (Baumrind, 1991), a sense of belonging in school (Glew et al., 2005), and teacher support (McNeely & Falci, 2004) are less likely to engage in risk behaviors. In addition, adolescents who engage with deviant peers or have parents with perceived positive attitudes about substance use (Ander et al., 2019) are more likely to engage in risk behaviors such as delinquency and alcohol use. Thus, parents, school, and peers are important contextual factors in adolescent development. However, as parents are a proximal part of a child's social context (Bronfenbrenner, 1979; Sameroff, 2010), they are considered to play a key role in the development of their children (Liable et al., 2015). In this thesis, I focus on the role of the parent-adolescent relationship, or more specifically, how aspects of parent-adolescent communication correspond to the development of risk behaviors in adolescence.

Parent-adolescent relationships

The UN Convention on the Rights of the Child states that parents (or other legal guardians) are responsible for providing appropriate direction and guidance to children, as well as for ensuring the protection and care of the child. The convention will be incorporated into Swedish law in January 2020, which places even greater onus on the courts and legal practitioners to

consider the rights of the child (Government Offices of Sweden, 2019). As it is now, according to Swedish law (the Children and Parents Code (1949:381), parents are to ensure the care, security and upbringing that the child needs. In addition, as the child matures, parents should allow the child to form and express his/her own views. In other words, parents are legally responsible for providing adequate guidance and support as a way of preventing risk behaviors and fostering healthy development for their child.

Being a parent is not always an easy task. As children grow up, parent-adolescent relationships and interactions change. Balancing parenting with adolescents' developmental changes can be difficult for some parents. For example, as children enter adolescence, their sleep quality and duration become poorer than earlier (Wolfson et al., 2007) which in turn is linked to the increase in adolescents' negative affect (Fuligni et al., 2017). This may be one of the reasons for emotional outbursts and exaggerated responses common in adolescents (Baum et al., 2014), and which parents may find difficult to handle. In addition, adolescents experience a greater need for autonomy than they did during childhood, which is why adolescents in this developmental period tend to need to individuate from their parents while still wanting their parents' guidance and support (Laursen & Collins, 2009). To be specific, individuals experience a basic psychological need for autonomy, competence, and relatedness (Ryan & Deci, 2000). These needs can be satisfied when, for example, parents adjust their parenting in accordance to adolescents' needs, or thwarted, such as when parents reject the needs of the adolescent. If parents do not acknowledge the growing need for autonomy and privacy, it can lead to parent-adolescent conflict, often regarding parental authority and jurisdiction (Smetana et al., 2006). Such conflict between parents and their adolescent children has its peak during early adolescence, when parent-adolescent roles and expectations are in transformation (Laursen & Collins, 2009). If parents and adolescents manage to adjust their expectations for each other, the conflicts tend to decrease by late adolescence.

Developmental perspective on parenting

Throughout history, parents have been depicted as the key figures in children's development. Regarding the development of deviant behaviors, early control

theories (e.g. Hirschi, 1969) have suggested that the basic training of children begins at home, focusing on parent-child bonds. With poor parent-child bonds, parents would have a hard time teaching conventional values to their children, and children would fail to conform to the rules of society and behave accordingly. Extending the notion of parent-child bonds, Patterson (1982) suggested that parents who do not respond to children's behavior properly (e.g. by giving praise for positive behavior or punishment for unwanted behaviors), are responsible for setting their children off on a delinquent path. According to Patterson's line of reasoning, delinquent children would elicit more harsh behaviors from parents and a vicious cycle of coercive parent-child interactions would grow. In such theoretical views, parents are seen as authorities, controlling and shaping their adolescent children's developmental outcomes.

Parents' use of firm control in child rearing has been one of the main antecedents in Diana Baumrind's development of parenting typologies. In her seminal study of parents and preschool children, Baumrind (1966; 1967) discerned three distinct parenting styles (authoritative, authoritarian, and permissive/indulgent). The parenting styles were based on configurations of parenting attitudes (such as accepting power, conflict with the child, or encouraging verbal give and take) and parenting practices (such as discipline, coercive power, or restrictiveness). Authoritative parents exert firm control and place demands on the child's behavior, but also encourage verbal give and take, and child independence. Their children are well adjusted and assertive (Baumrind, 1966). Authoritarian parents attempt to shape the child according to their own personal standards, restrict the child's autonomy, and expect that the child conforms to the rules. Their children are withdrawn and dissatisfied. Permissive or indulgent parents make few demands, avoid exercising control and are disorganized, which is also shown in their children's lack of self-control. According to Baumrind's dimensions, authoritative parenting style would be the most beneficial for adolescent psychosocial development, including engagement in risk behaviors.

Even though Baumrind's parenting styles received much attention, after the criticism of Lewis (1981) and Maccoby and Martin (1983), the parenting style model was transformed into a two-dimensional framework. In her reinterpretation of Baumrind's work, Lewis (1981) criticized the idea that

parents' firm control results in internalization of parents' values in children and suggested that it is rather a matter of children being willing to comply with parents' demands by choice, and parents' being responsive to children's adaptations. The authoritative style is then rather a product of harmonious parent-child relationships and mutual understanding than a product of demands and firm control. Maccoby and Martin (1983) extended the ideas put forward by Lewis (1981) and developed a two-dimensional model where parenting styles reflected the dimensions of parental demandingness and responsiveness. Whereas parental demandingness included supervision and confrontations with the child who disobeys, parental responsiveness included parental actions that fostered individualization through parental support (Darling & Steinberg, 1993). This reconceptualization resulted in adding a fourth parenting style to the parenting typology: neglecting (Maccoby & Martin, 1983). These parents scored low in both dimensions shown; they were poor at monitoring and were non-supportive of the child. Taken all together, studies have routinely found that children and adolescents from neglecting families have the poorest psychosocial developmental outcomes, such as behavioral and internalizing problems, whereas children and adolescents from authoritative families are the most socially and emotionally competent and well-adjusted (Baumrind, 1991; Lamborn et al., 1991; Hoeve et al., 2009; Steinberg et al., 1994). In sum, the configurations of parental attitudes and parenting practices seem to matter for adolescent psychosocial development. When parents are responsive to their adolescents and use adequate parenting practices, their adolescents have positive developmental outcomes. But what parenting practices are included in healthy parenting? Parents communicating with children and adolescents, and being supportive when confronted with everyday problems, are some commonly used parenting practices, but one practice that has been given much attention in parenting literature, is parental monitoring.

Parental monitoring

Parental monitoring has been defined as “a set of correlated parenting behaviors involving attention to and tracking of the child's whereabouts, activities and adaptations” (Dishion & McMahon, 1998, p. 61). The idea is that keeping track of adolescents' activities (such as by asking adolescents for information) and structuring adolescent's environment (such as by controlling

adolescents' freedom to come and go as they wish) would help parents to have knowledge about their adolescent's whereabouts which subsequently would enable parents to protect their adolescent from harm. This sort of parenting practice is commonly included as an aspect of control or demandingness in the configurations of parenting typologies. Earlier studies have shown consistent negative links between parental monitoring and adolescent conduct problems (Crouter & Head, 2002; Fowler et al., 2009; Racz & McMahon, 2011), substance use (Barnes et al., 2006; Yap et al., 2017), adolescent delinquency (Parker & Benson, 2004; Yoo, 2017) and a positive link to overall adjustment (Jacobson & Crockett, 2000; Williams & Steinberg, 2011). Overall, the suggestion from the results of these studies is that adolescents whose parents used monitoring practices, displayed less problem behaviors.

However, the seminal work of Stattin and Kerr (2000) and Kerr and Stattin (2000) who argued that the operationalization of parental monitoring was faulty challenged the prevailing parenting literature. Originally, parental monitoring was operationalized in research studies by questions such as "How much does X know about how you spend your free time?" (Steinberg et al., 1994), "How often do you or your partner know: who your child hangs out with during free time" (Metzler et al., 1998), "When I go out at night, my parent(s) know where I am" (Silverberg & Small, 1991) or "When your child is not at home, do you know where he/she is?" (Capaldi & Patterson, 1989). Stattin and Kerr argued that the previous studies on parental monitoring in fact measured parental knowledge of the adolescent's whereabouts and not parents' active efforts to obtain it. When operationalized into four distinct measures, namely parental knowledge of the adolescent's whereabouts (parents having information about their adolescent's activities), parental solicitation (asking adolescents and their friends for information), parental behavioral control (setting behavioral rules) and the adolescent's voluntary disclosure, it was evident that parental knowledge indeed was related to adolescent adjustment. Parents' actual efforts to control and track had however insignificant or weak links to adolescent adjustment. Other, more recent, studies have found similar cross-sectional (Criss et al., 2015) and longitudinal (Kerr et al., 2010) links between parental knowledge and adolescent behavioral adjustment. Thus, when parents know what their adolescents are doing and where they are, their adolescents report lower levels of risk behaviors concurrently and over time.

Sources of parental knowledge

What is parental knowledge? When parents have knowledge of their adolescents' whereabouts, they can impose certain actions to protect their adolescents from risk behaviors. But if parents do not know what their adolescents are doing when parents are not around, how do they obtain knowledge of their adolescents' activities? Being involved in adolescent activities or asking knowledgeable others (such as spouses and teachers) is one way (Waizenhofer et al., 2004). Adolescents' voluntary sharing of information about their everyday lives – adolescent disclosure (Kerr et al., 1999; Smetana, 2008) – can be another way for parents to stay informed. Supervising adolescents, through tracking (Dishion & McMahon, 1998) and controlling adolescent behavior and through rules and structure (Barber, 1996; Grolnick & Pomerantz, 2009) are other ways for parents to stay informed of their adolescent's whereabouts. In their reinterpretation of parental monitoring, Stattin and Kerr (2000) investigated how parental behavioral control, solicitation, and the adolescent's voluntary disclosure contribute to the information parents have about their adolescent's activities. Testing both parents' and adolescents' reports, they found that adolescent disclosure was the main correlate of parental knowledge, while parental solicitation and behavioral control were either insignificant or only weakly related to parental knowledge. The importance of adolescent disclosure for parental knowledge has been empirically shown in other more recent studies (eg. Criss et al., 2015; Crouter et al., 2005; Kerr et al., 2010; Keijsers et al., 2010) indicating that what parents know mainly comes from the adolescent's voluntary sharing of information. In other words, parents have knowledge of their adolescents' whereabouts mainly when adolescents are willing to share information with their parents.

Parent-adolescent communication and adolescent risk behaviors

How adolescents and parents manage the information in their relationship is critical for adolescent development. In other words, an adolescent's voluntary information-sharing and the parents' strategies of behavioral control and solicitation can be directly associated with adolescent behavior. Indeed, adolescent disclosure seems to be both concurrently (Kerr & Stattin, 2000; Stattin & Kerr, 2000) and longitudinally (Keijsers et al., 2010; Kerr et al.,

2010) related to adolescent psychosocial outcomes, such as delinquency. Thus, adolescents who share information with their parents seem to refrain from engaging in delinquent activities. However, the results from the correlational studies (e.g. Kerr & Stattin, 2000) could mean that it is a matter of non-delinquent adolescents being more willing to share information with their parents. Although possible, it does not necessarily have to be the case. Using a design where both genetic and environmental influences on adolescent disclosure were studied, Marceau et al. (2015) showed that the link between adolescent disclosure and adolescent externalizing problems could be explained through environmental influences rather than evocative genotype-environment interaction (thus adolescents with heritable externalizing problems disclosing less). Even when adolescents disagree with their parents about their spare time activities, they report disclosing their whereabouts (Darling et al., 2006). However, adolescents do employ strategies of whether to tell, what to tell, and how much to tell. They actively chose to provide misinformation or provide information in part or in whole (Tilton-Weaver & Marshall, 2008). Whether or not they chose to share information about their whereabouts with their parents is founded upon a history of interactions with their parents. In other words, something in the parent-adolescent relationship seems to be accountable for the link between adolescent disclosure and adolescent psychosocial development.

The association between parental actions and adolescent engagement in risk behavior, however, appears to be even more complex than that. Parents trying to obtain information about their adolescents' activities through asking questions can be helpful in those cases where adolescents do not voluntarily share information with their parents (Laird et al., 2003). Parents also lay down rules regarding when adolescents need to be home and require them to reveal who they have been with in order to manage their adolescent's behavior and provide structure in their adolescents' lives. This type of behavioral management – parental behavioral control – can be protective against the development of adolescent delinquency (Fletcher et al., 2004) if adolescents do not find it intrusive. Another form of control used by parents is parental psychological control. When adolescents disobey, parents may withdraw their love and attention and induce feelings of guilt in their adolescents. This type of control is coercive and has an impact on the psychological and emotional development of the adolescent, resulting in feelings of guilt, lack of

independence, and low ego strength in adolescents, and is generally seen as harmful for adolescent psychosocial development, resulting in more internalizing problems and engagement in risk behaviors (Barber, 1996; Grolnick & Pomerantz, 2009). So, whether or not parents' actions are protective of adolescent psychosocial development, thus reducing engagement in risk behaviors, may be a question of what actions parents take to control and steer their adolescents' behavior, but also how adolescents perceive parents' actions.

Adolescents reflect upon and interpret parental actions. As adolescence is a central period in terms of a growing need for autonomy, adolescents can interpret parental actions and involvement as either legitimate (Rote & Smetana, 2016) or intrusive (Hawk et al., 2018), which they, subsequently, act upon. Although parents' involvement can be protective of adolescent engagement in risk behaviors, some adolescents see parents' actions and involvement as a nuisance, which is not helpful for their psychosocial development (Trost et al., 2007). For example, although the idea of parental behavioral control is that it protects against adolescent engagement in risk behaviors (Barber, 1996), when adolescents interpret parental controlling efforts as intrusive, their level of engagement in risk behaviors is high (Kakihara & Tilton-Weaver, 2009). Depending on how parental behavioral control is interpreted by the adolescent, it can be more or less beneficial for adolescent development. There are indications that only moderate levels of parental behavioral control are beneficial for adolescent development (Harris-McCoy, 2016). Levels of parental behavioral control that are too high can be perceived as intrusive, while those that are too low can be perceived by adolescents as non-involvement from parents. The latter could give adolescents opportunities to engage in delinquent activities. Thus, parents should balance their controlling behavior and promote adolescent disclosure in order to protect their adolescents from engaging in risk behaviors. But are these links that simple?

Reciprocal relations between parents and adolescents

In line with social control theories (e.g. Hirschi, 1969), the parenting literature often depicts parents as the active agents in a parent-adolescent relationship,

controlling and shaping their adolescent children's developmental outcomes (e.g. Dishion & McMahon, 1998). Therefore, one way of seeing the process in parent-adolescent interaction is unidirectional, or "mechanistic" (Kuczynski & De Mol, 2015). The traditional assumption, which also can be noticed in the parenting typologies according to Baumrind (1966) and Maccoby and Martin's (1983), is that parents, through their parenting practices, influence adolescents. According to this line of reasoning, parents set developmental goals for their children and use parenting practices to help their children to reach those goals (Darling & Steinberg, 1993).

Another way of looking at parent-adolescent relationships is from the developmental systems perspective (Lerner, 2018). Accordingly, the individual cannot be seen as a separate entity from the context he/she lives in, but as interacting with all levels of the developing system (Sameroff, 2010) (see Figure 1). The individual is intertwined with his/her parents, family, as well as with school, peers, and the community, which means that the individual affects and is affected and changes as the context is changing. From an early stage the child is connected with his/her parents which is why parents are seen as a central part of the child's proximal context having an important role in the child's psychosocial development. In order to obtain a more holistic view of the parent-adolescent relationship and interactions taken as a whole, in this dissertation I study parent-adolescent relationships by taking into consideration both parents and adolescents as important agents in their relationship.

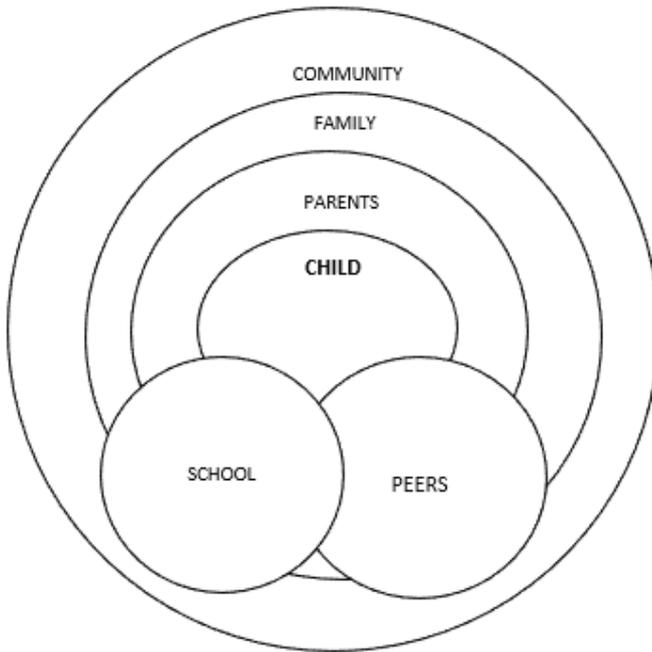


Figure 1. Theoretical model of adolescent development adapted from Sameroff (2010)

Translated into parent-adolescent interactions, the idea is that both parents and adolescents are agents in the relationship, albeit asymmetrical in power, who actively influence each other (Kuczynski & De Mol, 2015). Although parents have more personal resources to help their children to grow (particularly during early childhood), children or adolescents are not powerless; they use the resources they have to influence their parents and their interactions. They interpret messages communicated through interaction, and make meaning out of those interpretations, which they act upon. The idea of the child as an agent has been introduced in Baumrind's development of parenting styles, as well as in Lewis's (1981) criticism of parents' firm control. To be specific, Baumrind (1966) suggested that children may respond differently to parents' attempts to control. Some children could use parents as a model and accept parental controlling efforts, while other children would react in an assertive manner. In addition, Lewis (1981) implied that it is plausible that children, as much as parents, are in control with reference to their interactions. Lewis suggested that when parents adapt their demands as a result of reasoning with

the child, as is common among authoritative parents, it is likely that the child feels in control of the interaction with his/her parents. That way the child contributes to the parenting effort. Parent-adolescent communication may work in the same way. If adolescents interpret parents' efforts to obtain information in a positive way, that may prompt adolescents to share more information with their parents, which, in turn, would give parents the possibility to engage more in their adolescents' lives and communicate more (Keijsers et al., 2010). In other words, both parents and adolescents interpret one another's expectations and behaviors and act upon those interpretations in a mutual chain of actions and reactions. Thus, in order to understand the developmental processes between parents and their adolescent children, the reciprocity in their relationship should be accounted for.

Parents and adolescents in an interplay

At this point in the thesis, we recognize that parents and adolescents are a part of a system where they mutually affect each other. The dynamic interactions between parents and adolescents are a part of the adolescent developmental process (Lerner, 2018). Both adolescents and their parents bring unique characteristics to their relationship, and these characteristics play a part in the dynamics of their interaction as well as in the developmental outcomes. Two central features of parenting are parents' self-efficacy and parent-adolescent connectedness. Adolescent features contributing to this dynamic interaction are temperament and gender.

Parental self-efficacy

Both parents and adolescents are embedded in a history of dynamic interactions. Based on parents' attitudes toward their child and their interactions, parents create an environment in which they employ parenting practices to protect their children from harm (Darling & Steinberg, 1998). Therefore, how parent-adolescent relationships are now, is affected by how they were in the past. Parents (as well as adolescents) make sense of their previous interactions which subsequently guides them in their relations with each other (McGillicuddy-De Lisi & Sigel, 2002). In other words, they build certain expectations about themselves, their child, and the relationship based on their earlier interactions.

According to Bandura (1977), individual motivating behaviors are linked to individuals' expectations of the outcome which in turn links to individuals' perceived capacity to perform effectively. Parental self-efficacy refers to parental expectations on their own parenting competence, capacities and their ability to cope with tasks effectively as a parent (Coleman & Karraker, 1998). That means that parental self-efficacy, or parents' belief in their parenting competence, serves as a source for their parenting behaviors or parent-adolescent interaction. The idea is that when they perceive themselves to be able to handle challenges in their role as parents, parents with high levels of parental self-efficacy would find ways to cope with the challenges. In contrast, parents with low levels of parental self-efficacy would have difficulties finding ways of coping with the situations and be more likely to give up (Bandura, 1977). Parental self-efficacy is however not a fixed trait but fluctuates as the personal or contextual demands change. For instance, parents' sense of their parenting competence seems to decrease during challenging developmental periods, such as early adolescence (Glatz & Buchanan, 2015a). Nonetheless, parents' sense of their parenting competence is shown in their parenting behaviors and relationship with their adolescents. For example, while high levels of parental self-efficacy relate to warmth and parental involvement and, in turn, to better child adjustment (Izzo et al., 2000; Glatz & Buchanan, 2015b), low parental self-efficacy is associated with harsh discipline or laxness (Sanders & Woolley, 2005). This indicates that positive beliefs in one's own parenting competence would encourage parents to engage in more competent parenting behavior (Bogenschneider et al., 1997; Jones & Prinz, 2005). In other words, an adolescent's development can indirectly be shown to depend upon how competent his or her parents perceive themselves to be.

Perceived connectedness between parents and adolescents

The way a parent-child relationship develops can also depend on how emotionally close parents and children are to each other. According to Social-Relational Theory, the development of emotional connectedness between parents and their children is dependent on mutual responses in parent-child interactions (Kuczynski & De Mol, 2015; Loulis & Kuczynski, 1997). As emotional connectedness develops from an early age, parents and their

adolescents have a history of interactions which would be another factor playing into their relationship now. Parents and their children form bonds to each other from early stages in life. According to attachment theory (Bowlby, 1978), infants form emotional bonds to parent(s) and through such bonds create internal working models of attachment. These models are simple mental models of the parents, parent-child relationships, and the self. Such models influence infants' and children's responses to other people which, in turn, have an impact on the child's future relationships and psychosocial development, including engagement in risk behaviors. Parent-child connectedness may thus be a part of the parent-child attachment. Although emotional connectedness is an important part of the parent-child attachment, which is shaped early in the child's development and thought to be stable grounds for a child's development (Bowlby, 1978), in line with Darling and Steinberg (1993), emotional connectedness between parents and their children/adolescents may also be a result of the emotional climate shaped through the parenting style. For example, in an authoritative or permissive parenting style, parents seem to be more responsive to their child needs, which promotes parent-adolescent connectedness. In turn, when parents and adolescents have close bonds, it could have some effect on what parents know about their adolescent's whereabouts, how they know it and what they do when such knowledge is obtained (Dishion & McMahon, 1998). There are empirical indications that parents with close bonds to their early adolescent children have more knowledge of their early adolescent's whereabouts because they take certain actions to obtain it (Kerns et al., 2001). In addition, adolescents, who have close emotional bonds to their parents, seem to be more likely voluntarily to disclose information about their everyday activities to their parents and refrain from engaging in risk behaviors (Vieno et al., 2009; Tilton-Weaver, 2014). Thus, close emotional bonds between parents and their adolescents are important for the development of the parent-adolescent relationship and reducing adolescent engagement in risk behaviors.

Adolescent gender

Parent-adolescent relationships may look different depending on the gender of the child. As early as in infancy, parents tend to regard their daughters and sons differently through gendered play or parenting behaviors (Halpern & Perry-Jenkins, 2016). As children transition to adolescence, parents may have

different expectations for boys and girls (Leaper, 2002). For example, parents seem to encourage more compliance (Fontaine et al., 2009) and less autonomy (Bumpus et al., 2001) in girls than in boys. In addition, adolescent girls report higher levels of disclosure, parental solicitation as well as parental behavioral control, than boys do (Kerr & Stattin, 2000). Through parents' behaviors and expectancies, girls seem to be subjected to parental behavioral control and connectedness, while the same is not necessarily as strongly applied to boys.

But is the interaction between adolescent gender and parent-adolescent relationships relevant for adolescent engagement in risk behaviors? Even though gender differences in substance use are diminishing (Zetterqvist, 2017), boys are in general more likely to engage in risk behaviors, than girls (Moffit & Caspi, 2001; Junger-Tas, 2012). Along the lines of these findings, it is possible that more parental knowledge of boys' activities would be more beneficial for their psychosocial development, including a reduction of engagement in risk behaviors. Some studies do indicate that boys, more than girls, benefit from parents being informed of their whereabouts, whereas girls, more than boys, benefit more from trusting relationships with their parents, in terms of adolescent behavioral development (Borawski et al., 2003). Other studies, on the other hand, indicate that the impact of parental knowledge on adolescent adjustment would be the same for boys and girls (Stattin & Kerr, 2000; Hoeve et al., 2009; Keijsers et al., 2010). Thus, whether or not different aspects of the parent-adolescent relationship have different functions for boys' and girls' development is still unclear.

Adolescent temperament

Temperament is the biologically based individual predisposition toward emotional reactivity and self-regulation (Cloninger et al., 1993; Bates & Pettit, 2015). It is a moderately heritable and relatively stable feature of personality manifested early in life. There are different ways of describing and classifying temperament (Goldsmith et al., 1987). According to Cloninger's biopsychosocial model of personality (Cloninger et al., 1993), temperament is defined as the automatic emotional response to experience. Together with character (self-directedness, cooperativeness, and self-transcendence, which refer to self-concepts about goals and values moderately influenced by sociocultural learning and maturity), temperament is a basis for development of personality. According to this view, temperament involves an individual's

tendency to engage in exploratory activities (*Novelty Seeking, NS*), a tendency to inhibit behavior to avoid problems (*Harm Avoidance, HA*), a tendency to search for social rewards through attachment and emotions (*Reward Dependence, RD*), and a tendency to maintain a behavior despite difficulties (*Persistence*) (Cloninger et al., 1993). How individuals regulate their emotional tendencies, is reflected in their behavior. For example, while individuals with persistent and outgoing temperaments are determined, relaxed and well adjusted (Wennberg & Bohman, 2002), individuals who are highly extraverted yet have difficulties with emotional regulation early in life, tend to show poor sociability and more adjustment problems later on (Lerner & Vicary, 1984; Wennberg & Bohman, 2002). Accordingly, temperament seems to be important for an individual's psychosocial development and functioning.

The psychosocial development is shaped through the interaction between the individual and his/her context. Depending on their temperament, adolescents can react differently to their parents' parenting strategies. Studies on toddlers show that children high in emotional reactivity are particularly prone to adjustment problems when met with harsh parenting (Kochanska et al., 2013). When met with warm and responsive parenting, the risk of adjustment problems decreases. Building on the theory of differential susceptibility, Belsky and colleagues (2007) suggest that some children are more sensitive to parenting than others, for better or for worse. The idea is that children who have vulnerable genetic tendencies (such as those high in emotional reactivity), are particularly susceptible to negative as well as positive parenting effects. These children are disadvantaged by negative environments. They, however, benefit from enriching environments in terms of their development (Belsky & Pluess, 2009). Accordingly, some children more than others are more affected by contextual conditions in terms of their psychosocial development, including involvement in risk behaviors. To be specific, children with negative affect are at risk for problematic development, such as substance abuse in adulthood (Lerner & Vicary, 1984; Wennberg & Bohman, 2002). When these children are met with harsh parenting, the risk of a problematic development in personality and behavior increases. However, when met with supportive rearing environments, they tend to bloom (Belsky & Beaver, 2011; Slagt et al., 2016). In other words, how well parenting strategies are attuned to the temperament characteristics of the child, is shown

in the behavioral outcomes of the child. This indicates that particular types of parenting may be more or less beneficial for children's psychosocial development, depending on how they interact with the temperament characteristics of the child.

Gaps of knowledge

Almost twenty years since Stattin & Kerr's (2000) reconceptualization of parental monitoring, fundamental, unresolved issues remain. The unidirectional form of parenting, as often implied in social control and parenting style theories (e.g. Hirschi, 1969; Baumrind, 1966), need to be challenged by a greater focus on reciprocal processes in families. Suggesting that parents are responsible for their children's development, without giving attention to the child's needs, characteristics, reflections and moreover willingness to conform is not enough. If both parents and adolescents are agents in their relationship (Kuczynski & De Mol, 2015; Sameroff, 2010) it is likely that both adolescents and their parents contribute to adolescent development. It is also likely that parents and adolescents interpret one another's actions and act accordingly.

Some important questions in the parenting literature thus remain to be answered. To begin with, studies suggest that parental knowledge of adolescents' whereabouts is a protective factor that reduces adolescent engagement in delinquency and substance use (e.g. Yap et al., 2017; Parker & Benson, 2004; Marceau et al., 2015). However, the question is whether the protective role of parental knowledge may be masking other mechanisms that are responsible for the protective effect found in previous studies? If parents and adolescents are both active agents in families (Kuczynski & De Mol, 2015), in what way do the adolescents contribute to parent-adolescent relationships and their own development? To answer these questions, parents' own strategies and adolescents' contribution to the parent-adolescent relationship and adolescent development should be studied separately and independently of parental knowledge.

Next, the parenting literature provides little information on what role parents' beliefs play in the parent-adolescent relationship and adolescent development.

Individuals' beliefs and expectations play a role in the shaping of their relationships (Bandura, 1977; McGillicuddy-De Lisi & Sigel, 2002). How parents perceive their parenting competence, as well as how they perceive the bond between themselves and their adolescents, can play an important role in the shaping of parent-adolescent relationships and in adolescents' involvement in risk behaviors. Testing the associations among parenting competence, connectedness between parents and adolescents, and parental knowledge and its sources, would provide more knowledge about how different aspects of the parent-adolescent relationship interact and in what way they directly or indirectly relate to adolescent risk behaviors.

In addition, adolescents evaluate and interpret their own and others' actions, so when parental actions are interpreted as intrusive, parenting efforts can be maladaptive. For that reason, adolescent perception of parental control should be included when studying parent-adolescent relationships and adolescent development. Moreover, some adolescents, more than others, are likely to be affected by the parent-adolescent relationship (Belsky et al., 2007). This may be due to their temperamental tendencies (Belsky & Pluess, 2009) or their gender (Borawski et al., 2003). Thus, whether or not links among parental knowledge, sources of knowledge, and adolescent risk behavior apply to all adolescents is questionable. Including the moderating effect of adolescent individual characteristics, such as gender and temperament, into parenting models would provide more information about whom the results apply to.

Finally, the majority of studies on parenting and adolescent risk behavior have a cross-sectional (e.g. Stattin & Kerr, 2000) or uni-directional longitudinal design (e.g. Fletcher et al., 2004). However, in order to examine developmental structure in an interplay between adolescents and their parents, bidirectional and longitudinal models are warranted (Meeus, 2016). Although studies with bidirectional design do exist (e.g. Keijsers et al., 2010; Kerr et al., 2010), the majority of studies, have conducted Cross-Lagged Panel Models (CLPM) to study the reciprocal links between parent-adolescent communication efforts and adolescent risk behaviors, which do not disaggregate within-family and between-family variance (Hamaker et al., 2015; Keijsers, 2016). Thus, between-family and within-family effects have different ecological levels of inferences that do not necessarily relate to each other (Berry & Willoughby, 2017; Keijsers & Van Roekel, 2018). Therefore,

when studying the processes in parent-adolescent interactions taking place within families, a methodological approach where between-family and within-family variances are separated should be used.

Aims of the dissertation

Guided by the theoretical implications from parenting style theories, I challenge the notion of adolescent development as a product of parental action, and I extend the parenting theories by also placing emphasis on the role of the adolescent in the parent-adolescent relationship and adolescent psychosocial development. Parenting practices, such as behavioral control and solicitation, are typically included in the models of parenting as parental strategies to protect their adolescents from engaging in risk behaviors. In addition to parents' actions, I add adolescents' disclosure as the adolescent's own contribution to the parent-adolescent relationship and development of risk behaviors. By including adolescents in the theory of parenting, we can obtain a more holistic view of parent-adolescent interactions and adolescent development. Moreover, if both parents and adolescents are active agents in their relationship, the interactions should be examined from both points of view. Therefore, I include parents' and adolescents' reports on parental knowledge and its sources, as well as parents' perceptions of their parenting competence and parent-adolescent connectedness. In addition, I combine personality literature with parenting literature to provide a stronger case for interactions between individuals (in this case adolescents) and their contexts (in this case parents). Finally, to obtain knowledge of the structure, as well as the processes in parent-adolescent relationships and adolescent development of risk behaviors, longitudinal modelling approaches should be applied. Therefore, I use structural equation modeling where direct and indirect links between constructs can be assessed (Byrne, 2010). In addition, I use cross-lagged modelling approaches with moderating effects and modelling approaches where disaggregating within-family from between-family processes in links between parenting and adolescent risk behaviors is made possible.

The overall aim of this dissertation is to investigate how parents' and adolescent-driven communication efforts in parent-adolescent relationships

relate to development of risk behaviors in early to mid-adolescence. More specifically, I study a) the associations between different aspects of the parent-adolescent relationship and b) how different aspects of the parent-adolescent relationship are linked with adolescent risk behaviors. The questions are studied by including the concepts of adolescent disclosure, parental knowledge, solicitation and behavioral control, parental self-efficacy and parent-adolescent connectedness, and adolescent gender and temperament (see Figure 2).

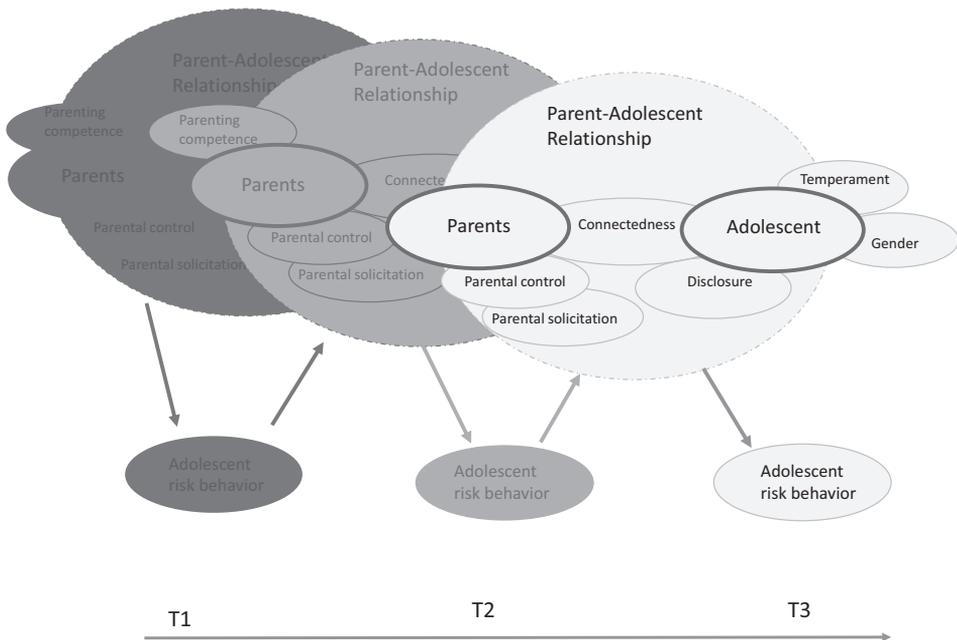


Figure 2. Overarching conceptual model of the longitudinal links between parent-adolescent relationships and adolescent risk behavior including mechanisms coming from both parents and adolescents

To achieve the overall aim of this dissertation, I have specified four sub-aims. These sub-aims correspond respectively to the four empirical studies that make up this dissertation. The specific aims for the studies are listed below:

Study I To investigate the associations between sources of parental knowledge (adolescent disclosure, parental solicitation, and parental behavioral control), parental knowledge, adolescents' feelings of being overly controlled (all from adolescents' reports), and adolescent risk behaviors, and to test the moderating effect of gender.

Study II To investigate links among parent–adolescent connectedness, parents' perceived parenting competence, parental knowledge and sources thereof (from parents' reports), and adolescent-reported risk behaviors, and also to test the moderating effect of adolescent gender.

Study III To investigate whether longitudinal associations between adolescent disclosure, parental knowledge, solicitation, behavioral control and one aspect of risk behavior, adolescent substance use, are moderated by adolescent temperament.

Study IV To examine the reciprocal effects among adolescent disclosure, parental solicitation, parental behavioral control and one aspect of adolescent risk behavior, namely delinquency, by disaggregating within-family from between-family variances in the possible links.

Material and methods

The LoRDIA Research Program

The data for this dissertation come from Longitudinal Research on Development In Adolescence (LoRDIA), an ongoing longitudinal research program in Sweden that builds on existing collaboration between the Jönköping University School of Health and Welfare (JU) and Gothenburg University Departments of Psychology and Social Work (GU). The program is funded by the Swedish Research Council (VR); the Swedish Research Council for Health, Working Life and Welfare (FORTE); Sweden's Innovation Agency (VINNOVA); and The Swedish Research Council Formas under a combined grant (No. 259-2012-25). LoRDIA studies transitions in adolescence by collecting information about adolescents' health, relations to family, peers and school, as well as substance use and delinquent behavior. These are studied by means of annual adolescent self-reports, teachers' reports, and school registry data on the students' school functioning, as well as two early waves of parents' reports. The adolescents are followed for four to five years, from 12 or 13 to 18 years of age. Also, comprehensive diagnostic interviews are planned as the last step in the program. The data collection started in 2013 with two cohorts, students in 6th and 7th grade, and will end when students are in the final year of high school.

The LoRDIA study population

The participating students come from four small to medium sized municipalities in the southern part of Sweden with 9,000 to 36,000 inhabitants. The majority of the Swedish population lives in municipalities of a similar size. The municipalities were chosen based on the feasibility of collecting data from schools in all parts of each municipality, in which there were high schools in the municipality or close by, and in which the average educational level reached by the inhabitants corresponds to the Swedish population at large. According to "Statistics Sweden" (2016), two municipalities are classified as "product manufacturing," one is a "suburb to a large city" and one is a "commuting municipality" where 40 % of residents

commute to neighboring municipalities. In one of the four, 32 % had studied at an institution of higher education – slightly above the national average – while among the inhabitants of the other three, only 26 % had studied at this level, which is below the national average (SCB, 2016). Together, they match the national average. Out of 2108 adolescents invited in the first wave, 318 opted out (202 due to parental decisions, and 116 because of the child’s own decision). This resulted in 1780 adolescents constituting the total population of the study. In the second wave, 42 more students entered after having migrated to the municipality (after the same process of information and consent), and another 64 students entered after they and/or their parents reconsidered their previous decision to opt out. The total number of invited students after the two waves is thus 2150 and the total study population is therefore 1886 students – i.e. 88 % of all those invited.

Representativeness of participants in the first wave compared to those who opted out was checked by comparing available register data on demographics (gender and immigration status, as indicated by studying Swedish as a second language) and school performance (absenteeism and merit points based on grades). There were no significant differences in gender (88.7% of all boys that were invited participated and 90.4% of all girls that were invited participated, $p = .22$), immigrant status (out of all invited students with an immigrant status and Swedish ethnicity, 90.9% of all invited adolescents with an immigrant status participated and 86.2 % of those with Swedish ethnicity who were invited participated, $p = .07$), merit points (198.69 [$SD = .56.16$] vs. 203.93 [$SD = 46.85$]; $p = .15$) and absence from school (absentee hours/year: 6.57 [$SD = 6.38$] vs. 6.33 [$SD = 6.38$]; $p = .60$). It should be noted that absentee hours include all hours absent – both approved absences (e.g. sickness) and absence for non-approved reasons. The study population is representative for all the invited adolescents as far as we could check.

Data collection procedure

Before the recruitment of participants, all schools in the four municipalities were notified about the project. Parents were sent letters (separate letters if living apart) with information about the study. Also, teachers and students were sent somewhat shorter letters about the content of the study. Each year, paper surveys were administered to all students in their classrooms by the

LoRDIA research team who explained the purpose of the survey, voluntary nature of participation, and confidentiality of replies. Because adolescents with intellectual disabilities were included in the study, an adapted form of the questionnaire was made available during the first wave of the study. This approach was chosen in line with the recommendations for research on children with mild intellectual disability (Nilsson et al., 2012). This questionnaire included the same items and questions as the regular version, although some wordings were changed (we avoided abstract wording and removed double negations) and some response alternatives were reduced from 5-point Likert scales to 3-point Likert scales. For example, the question “Do your parents know what you do during your spare time?” was to be rated from 1 (almost always) to 5 (never) in the regular form, while the same question was to be rated from 1 (mostly) to 3 (rarely or never) in the adapted form. Analyses of internal consistencies of all scales in both forms showed satisfying reliability. Therefore, and in order to have the same form for all participants, the questionnaires in the following waves were modelled after the adapted form. In order to ensure comprehensibility of the items, we tested the questionnaires at each wave of data collection by the read-aloud method, and to be able to test the psychometrics in the data, the questionnaires were tested in other classes with students of the same age as the participating students also at each wave.

The questionnaires for the adolescents were comprehensive, with 350-450 questions in each wave. In the first wave, it took them about 90 minutes (mean) to complete it, but in later waves this was reduced to about 50 minutes (mean), partly due to the adaption of the forms to those with cognitive disabilities.

Teachers received web-based surveys annually, and those included questions on adolescent school achievement and class-room performance. Parents’ questionnaires, which included questions about parent-adolescent relationships, parental mental health, and alcohol and drug consumption were sent by mail during Wave 1 and another set of parental questionnaires which included parental reports on adolescent personality, were sent by mail during Wave 2.

Ethical considerations

The research program and data collection details were approved by the Regional Research Review Board in Gothenburg for each wave (No. 362-13, 2013-09-25; No. T446-14, 2014-05-20; No. T553-15, 2015-07-31; No. T465-17, 2017-07-21; No. T553-18 2018-07-26).

Research on humans is essential to obtain information on people's living conditions as well as to obtain scientific knowledge of how to help and understand people in need. At the same time, a researcher needs to reflect upon the risks and benefits of the research. According to the Swedish Research Council (2017), the general principal in research on humans is to do a thorough ethical risk-benefit analysis where the welfare of the informants has the highest priority. One important aspect of non-maleficence in research is to have informed consent from informants. Including children and adolescents in research entails consideration of this matter. According to the Act concerning the Ethical Review of Research Involving Humans (SFS 2003:460) the legal guardians of the children and adolescents under the age of 15 and of those adolescents who do not understand what participation entails, should be informed about the study and consent to the research. When the LoRDIA research program started data collection, the adolescents were twelve to thirteen years of age, which entailed parental consent for their participation. Because we sought information about adolescents' alcohol and drug use, as well as adolescent mental health, it was necessary to ensure that all adolescents had the opportunity to take part in the study. There were, however, reasons to believe that adolescents from problematic home environments would be at risk of exclusion if we demanded parents' active consent for their adolescents' participation, since more chaotic home environments would have more trouble keeping documents in order. Therefore, in line with the recommendations from The Swedish Research Council (2017), an *opt-out* consent method was used, meaning that parents had the right to decline their adolescent's participation by notifying the researchers in some way. They could do this by completing and sending in a form in a stamped envelope, by phone, or by e-mail. To ensure that all parents were given the possibility to understand the aims and the procedure of the study, we translated the information letter into 32 different languages and sent the letter to both parents, if they lived at separate addresses. The parents were

reminded about the possibility of opting-out when the parental questionnaire was sent to them about one month later, and again one year later in connection with the second parental form.

In addition, the children and adolescents were also supposed to consent to participation in the study, and if an adolescent, despite parents' consent, did not want to participate, that adolescent had the right to opt out. At the first wave of data collection they were asked to provide their names and consent to participate in the study. The names were later replaced by individual codes. Adolescents were ensured that their data would be handled with strict confidentiality. They also had the possibility to terminate their participation without any repercussions. Those adolescents who did not want to participate or terminated their participation during the data collection were given other assignments by their teachers. To make participation possible for all adolescents, an adapted form for the adolescents with cognitive disabilities was used during the first wave of the study. These adolescents tend to be excluded from research (Alderson & Morrow, 2011), although information about their living conditions would provide general knowledge of adolescents' living conditions. In general, it is important to create a youth-friendly design in the studies and to recognize the value of research that includes children and adolescents.

There were, however, some ethical dilemmas during the collection of the data. In order for the researchers to be able to reach the adolescents and their parents, the school administrators had to agree to adolescent participation. In addition, school teachers were required to make the research possible by providing accurate information to the students before the data collection and by providing a time and place for the collection of the data. Thus, before the data collection started, the students had received information from their parents as well as their teachers, which means that students had a pre-understanding of the study that did not come directly from researchers, but from other sources. There was a risk that the information they received would be distorted, which could lead to them turning down participation. For example, in one school, the teachers' attitudes created problems for the adolescents' participation in the study, in that they neglected to gather the students when the researchers came to inform them about, carry out, and arrange the data collection. At this school, some teachers with influence

among the other teachers, perceived the study as a nuisance and hindrance to their work. After taking up the issue with the school board, the study could be carried out at the next wave. Nevertheless, it is important to consider in what way the teachers are approached both by the school board as well as the researchers, in order to insure their support while conducting the study in a school context.

As presented above, the parents had the right to opt out of participation on behalf of their child, and no explanations were demanded. Therefore, some parents could have declined to give permission for their adolescents' participation, even though the adolescent wanted to take part in the study. Näsman (2012) points out that gatekeepers may, because of their own interests and apprehension, turn down their child's invitation to participate. The adults may motivate their decision as seeing it as in the child's best interest, although exclusion of children/adolescents means that their voices will not be heard. In this study, 62 students who had opted out in the first wave through their own or their parents' decision, could join the study in the second wave since they or their parents reconsidered their previous decision. None opted out after the first wave. We understand this as a sign that after the first year, confidence in the study had increased among the adolescents and their parents.

The ethical analysis was also carried out regarding the questions asked in the questionnaires. We carefully chose questions that would be appropriate to the age of the adolescents. For example, questions concerning their experiences of physical or sexual abuse during childhood, and most questions regarding sexual activities, were not used until wave 3 when adolescents were in the 8th and 9th grades. As some of the questions could trigger strong feelings, it was important for the researchers to have a plan for handling such situations, since the intention is to ensure the safety of the child (Swedish Research Council, 2017). In the event that some adolescents should have any questions or feelings of distress, they were given information, in the form of letter, for contacting a responsible coordinator or were encouraged to reach out to nurses and counsellors at school, who were informed about the study beforehand.

Measures

Parental knowledge, solicitation, behavioral control, adolescent disclosure, adolescent feelings of being overly controlled. Measures come from Stattin & Kerr (2000) (see also Kerr & Stattin, 2000). Parental knowledge assessed how much parents knew about their adolescents' everyday activities with six items such as "Do your parents know what you do during your free time?" Parental solicitation assessed how often parents asked about their adolescents' unsupervised time in six items, such as "How often do your parents ask you about where you have been after school and what you have done?" Parental behavioral control assessed in what way parents controlled adolescents' freedom to come and go as they please with five items such as "Do you need your parents' permission to stay out late on a weekday evening?" Adolescent disclosure assessed adolescents' disclosure to their parents about their everyday lives with five items such as "When you have been out in the evening, do you talk about what you have done that evening?" In the parents' forms, the wording in the scales was reframed from "Do your parents know...?" to "Do you know...?" In adolescents' forms, items were rated 1 (never), 2 (sometimes), and 3 (often/always), whereas in parents' forms the 5-Likert scale was used. The internal consistencies (alphas) of the measures in different waves are shown in Table 1. Adolescents' feelings of being overly controlled assessed to what extent adolescents were feeling controlled by parents with five items such as "Does it feel like your parents demand to know everything?" with ratings 1 (yes, always) to 3 (no, never) ($\alpha = .69$). The measures were developed in the Swedish context and used in various international studies (e.g. Criss et al., 2015; Keijsers et al., 2010), with acceptable factorial validity (Lionetti et al., 2015).

Table 1. Internal consistencies (alphas) of parental knowledge and its sources across different raters and waves

Reporter	Wave 1 (6 th /7 th grade)		Wave 3 (8 th /9 th grade)	Wave 3b (9 th grade)	Wave 4a (2 nd grade high school)
	Adolescents	Parents	Adolescents	Adolescents	Adolescents
<i>n</i>	1520	550	1321	726	450
	α	α	α	α	α
Parental knowledge	.70	.77	.74	-	-
Adolescent disclosure	.72	.78	.71	.70	.69
Parental solicitation	.68	.69	.73	.72	.76
Parental behavioral control	.74	.78	.81	.82	.77

Parent-adolescent connectedness. The scale came from Kerr et al. (2008), originally designed to measure the degree to which adolescents seemed closed to parents’ influence. Out of ten original items, five items were included in the measurement of how parents perceived their adolescents’ emotional bonding with parents. Construct validity in the five-item scale was tested through principal component analysis with positive loadings on one factor measuring parent-adolescent emotional connectedness. The items were rated on five-point scales with opposite statements, for example “Our child wants to be close to us (parents) when she/he is upset” (coded as 1) and “Our child comforts her/himself when she/he is upset” (coded as 5). Internal consistency of the scale was acceptable ($\alpha = .79$) (Taber, 2018). The items were reversed so that higher scores indicated more parent-adolescent connectedness and lower scores indicated less parent-adolescent connectedness.

Perceived parenting competence. The scale was based on items from the Tool to Measure Parenting Competence (TOPSE; Kendall & Bloomfield, 2005). The original measurement, constituting eight subscales, was developed with parents of toddlers assessing parents’ perceptions, strategies, and self-efficacy in several parenting domains. The measurement has, however, been used in studies with parents of older children and adolescents (Enebrink et al., 2015). We used the subscale of self-competence as a parent, assessed with six

items such as “I know that I am good as a parent.” In this scale, the statements were formulated separately for mothers and fathers rating from 0 (not at all true) to 10 (definitely true) with internal consistency ($\alpha = .78$ for mothers, $\alpha = .79$ for fathers) and later combined into one (mean) perceived parenting competence scale with acceptable alpha ($\alpha = .87$).

Adolescent temperament. The measures of adolescent temperament came from Junior Temperament and Character Inventory (JTCI) (Cloninger et al., 1993), validated among Swedish adolescents (Boson et al., 2017). JTCI consists of 108 statements that adolescents rate as true or false, based on how they usually act and feel. The statements construct four temperament dimensions and three character dimensions, namely self-directedness, cooperativeness and self-transcendence. Three of the temperament dimensions – novelty-seeking (NS), harm avoidance (HA) and reward dependence (RD) – were used to construct adolescent temperament types. The fourth temperament dimension, persistence, was excluded due to poor internal consistency ($\alpha = .31$). Novelty seeking assessed the tendency to seek exploratory activities with 18 items such as “I often try new things for fun or thrills” ($\alpha = .69$). Harm avoidance assessed the tendency to inhibit behavior to avoid problems with 20 items such as “I get tense and worried in unfamiliar situations” ($\alpha = .82$). Reward dependence assessed the tendency to acquire conditioned social cues manifested through sentimentality and sociability with nine items such as “When I am upset, I’d rather be with somebody else than alone” ($\alpha = .58$).

Adolescent bullying. The scale was based on four items from Özdemiir and Stattin (2011) measuring physical assault with ratings from 1 (never), 2 (once or twice) to 3 (once a week or several times a week) and two questions measuring adolescent verbal or physical aggression in regard to physical appearances or sexuality. The items, such as “Have you beaten, kicked, or assaulted anyone in an unpleasant way at school or on the way to or from school?” were rated from 1 (never), 2 (once or twice) to 3 (once a week or several times a week) ($\alpha = .73$).

Examples of items and internal consistency (Cronbach’s alpha) for adolescent delinquency and substance use can be found in Table 2.

Table 2. Example of items and internal consistency in scales for adolescent risk behaviors

Measure	Study I		Study II		Study III		Study IV			
	Item	α	Item	α	T1	T2	Item	α	T1	T2
Adolescent delinquency	12 items such as: "During the past 12 months, how many times have you stolen from a shop?"	.80	Nine items such as: "During the past 12 months, how many times have you carried a knife or a weapon when you were out?"	.73	.87	-	Seven items such as: "How many times have you threatened someone to get person's money or other belongings?"	.68	.78	.81
Adolescent substance use	6 yes/no questions regarding whether adolescents had ever used alcohol, drugs, cigarettes, inhalants, or snuff	.62	4 yes/no questions regarding whether adolescents had ever used cigarettes, snuff, alcohol, or had ever been drunk	.60	.83	Three items with questions on how often the adolescent has used alcohol, cigarettes and snuff during past 12 months?	-	.63	.75	-

Adolescent delinquency. The scale came from an original 24-item scale on delinquent behavior from the Swedish Crime Survey (Ring, 2013) used among Swedish 9th graders. The items assessed the frequency of adolescent involvement in minor delinquent behavior, such as vandalizing, fighting on the streets, or stealing objects. Because Studies II, III and IV had longitudinal design, we only used items that were used repeatedly in the waves that the study was based on. This resulted in a different number of items in the measure of adolescent delinquency in different studies.

Adolescent substance use. The scale was based on questions modified from a yearly survey on substance use among Swedish 9th graders created by The Swedish Council for Information on Alcohol and Other Drugs (Gripe, 2015). The assessment of substance use differed between Studies I, II and III. In Study I, we used a measurement with six yes/no questions regarding any legal or illegal substance (such as alcohol, drugs and cigarettes), while the measure in Study II contained only questions on alcohol and tobacco. In Study III, we measured the frequency of adolescent alcohol and tobacco use.

As shown in Table 1 and Table 2 some of the scales had slightly lower internal consistency than generally recommended ($\alpha > .70$), which may be a threat to construct validity in the scales. As shown in other studies (e.g. Edwards & Romero, 2008; Kovacs, 2003), internal consistency of the scales is sometimes low in children's and adolescents' scales, possibly due to sample characteristics, such as age, gender, or cognitive functioning, or the number of items in the scale of measurement. However, high alpha values ($\alpha > .70$) do not necessarily imply the uni-dimensionality in the measurement which is why other tools (such as factor analysis) can be used alongside to measure the dimensionality of the scales (Taber, 2018). Nevertheless, the predictive validity of the scales used in the current thesis has been shown elsewhere (see e.g. Lionetti et al., 2015; Moreira et al., 2012; Turner et al., 2018).

Study design

In this thesis, cross-sectional as well as longitudinal designs were used. Cross-sectional design is preferred when the research aim is to put emphasis on the association between an independent and dependent variable during a fixed period. A longitudinal design is preferred when studying processes and change

over time (McQueen & Knussen, 2006). An overview of the designs of the studies is presented in Table 3.

Table 3. Overview of study designs, samples, data and data analyses used in the thesis

Study	Design	Sample	Data from	Data analyses
I	Cross-sectional	1520 adolescents	LoRDIA wave 1	SEM analysis with moderation Independent T-test
II	Longitudinal	550 parent-adolescent dyads	LoRDIA wave 1 and wave 3	SEM analysis with moderation Independent T-test
III	Longitudinal	1373 adolescents	LoRDIA wave 1, 2 and wave 3	Cross-lagged analysis with moderation
IV	Longitudinal	1515 adolescents	LoRDIA wave 1, 3, 3b, 4a	Random-Intercept Cross-Lagged Model

Study I

In order to understand a) how parents obtain information about adolescent whereabouts, b) how different means of parental knowledge relate to adolescent feelings of being overly controlled, as well as c) how these factors relate to the adolescents' involvement in risk behaviors, the links between parent-adolescent relationships and adolescent risk behaviors were tested. Using a cross-sectional design, my colleagues and I investigated the associations between parental knowledge, sources of knowledge (adolescent disclosure, parental behavioral control, and parental solicitation), adolescent feelings of being overly controlled and adolescent risk behaviors: adolescent bullying, delinquent behavior, and substance use. We also examined the moderating effect of gender.

Sample

The sample included a total of 1520¹ responding adolescents in the first wave of the study. The adolescents were in the 6th and 7th grades (50.6 % girls) with the mean age of 13.01 years ($SD = .59$). Six percent were born outside of Sweden and 14 percent spoke languages other than Swedish at home. Most of the students lived with both of their parents (80.6 %), whereas 7.8 percent lived with either a father or a mother, 10.7 percent alternated between a mother and a father and < .07 percent lived with a foster family. We did not have an objective measurement of socio-economic status (SES), but most of the students reported that their family had as much money as their classmates' families (62.8 %), while 20.3 percent reported that their family had more money than their classmates' families and 16.8 percent reported that their family had less money than their classmates' families.

Data analysis

In order to be able to use data from all adolescents – both those who filled out a regular form as well as those who filled out the adapted form (as described above) – we used a combined dataset with responses from the regular and adapted questionnaires. Thus, all 5-point Likert scales in the regular version of the questionnaire were reduced to the 3-point scales of the adapted version (as described above), with the median value unchanged, while the values below or above were replaced by one lower and one higher value, respectively. We performed all analyses in SPSS 21.0 and AMOS 21.0. First, we performed independent samples t-tests in order to analyze group differences. Next, we used structural equation modelling to estimate the direct and indirect links between variables. Structural equation modelling can estimate a series of dependence relations simultaneously, where the dependent variable may also become an independent variable in a subsequent dependence relationship. Full Information Maximum Likelihood (FIML) was used to handle missing data.

¹ In later inspection of the data the LoRDIA administration identified 5 duplicate cases from mailed questionnaires to absent students, which resulted in adjusting the Wave I sample to $N = 1515$ in later publications.

Unlike mean imputation (MI), where missing values are replaced by mean value of observed data, FIML uses all the information from the observed data to directly estimate parameters and maximize the likelihood function of the incomplete data (Wothke, 2000). This procedure provides unbiased parameter estimates as well as bias-corrected confidence intervals. The goodness of fit was determined using chi-square ($p > .05$), Tucker Lewis index ($TLI > .95$), comparative fit indices ($CFI > .90$), and root mean square error of approximation ($RMSEA < .08$) (Hair et al., 2010). In an integrated model, we entered adolescent disclosure, parental solicitation, and behavioral control as correlated exogenous factors, and we entered adolescent bullying, delinquent behavior, and substance use as correlated endogenous factors. Parental knowledge and adolescent feelings of being overly controlled were entered as mediating factors in the model. We analyzed gender differences in the model by performing multi-group analysis. Multi-group analysis allows comparing the constrained model, where effects were set to be equivalent across genders, and unconstrained models, with freely varying effects. A significantly better fit of the unconstrained model (indicated by significant $\Delta\chi^2$ statistics) would indicate gender differences (Hair et al., 2010).

Study II

Based on the results of Study I with cross-sectional design using adolescents' reports, in this study my co-authors and I used parents' reports to investigate the possible links between parenting competence and parent-adolescent connectedness and parental knowledge and its sources and their longitudinal associations to adolescent boys' and girls' self-reported risk behaviors (substance use and delinquency). As different members of the family tend to perceive parenting differently (Janssens et al., 2015), in addition to obtaining information from adolescents, including parents as reporters could provide a more holistic picture of parent-adolescent relationships. Moreover, including two time points with risk behaviors could provide information on whether any over-time links between parent-adolescent relationships and adolescent risk behavior exist.

Sample

We used data from three data collection waves: a parental survey from Wave 1 ($n = 550$), and adolescent surveys from Wave 1 ($n = 1520$) and Wave 3 ($n =$

1324), resulting in a combined dataset with 550 parent-adolescent dyads. The parental data included data from the mothers ($n = 181$), the fathers ($n = 111$), and data with combined mother-father reports or reports where parents collaborated ($n = 258$). To be specific, in 450 families, the parents lived together. In these cases, the reporters were mothers ($n = 120$), fathers ($n = 76$), and parents in collaboration with each other ($n = 203$). For some adolescents ($n = 51$) both the mother and the father filled in the questionnaires. Because the correspondence between the reporters living together ($n = 51$) was fair to moderate (Cohen's Kappa = .41 - .60) (Cohen, 1992) their responses were mean calculated, combined into one, and included in the dataset. In 100 families, the adolescents lived either with their mother, father, or alternated between the parents. In those cases where adolescents lived exclusively with the mother or the father, the data from mothers' reports ($n = 21$) and fathers' reports ($n = 19$), respectively, were included in the dataset based on whom they lived with, and data from parents in collaboration with each other ($n = 4$) when instead that was available. In those cases where adolescents alternated between the parents, and only one parent responded, the data from mothers' reports ($n = 35$) and fathers' reports ($n = 10$) were included in the dataset. For some adolescents ($n = 11$), both the mother and the father filled in the separate questionnaires. The correspondence between reports of mothers' and fathers' living apart was poor (Cohen's Kappa $<.20$) (Cohen, 1992) and therefore an additional five reports from the mothers, and six from the fathers were randomly chosen and included in the dataset.

The adolescent data came from Wave 1 (49.8 % girls) and Wave 3 (50.5 % girls). The mean age of the adolescents was 13.0 years ($SD = .56$) at the baseline and 14.3 years ($SD = .61$) at T2 (i.e. Wave 3). Adolescents included in the analytical sample were compared with adolescents excluded due to a lack of parental data. Parental responses were more frequent for adolescents with Swedish background ($p < .001$), higher grades ($p < .001$) and less school absenteeism ($p < .001$). Compared with the Swedish population, mothers in the analytical sample had lower full-time employment, a lower educational level and were more likely to be born outside of Sweden. Fathers in the analytical sample had higher levels of full-time employment, had a university education to a lesser degree, and were more often born outside of Sweden, compared with the Swedish population (SCB, 2017). The adolescents that were included reported a somewhat higher family income, parental

knowledge, and parental solicitation. There were no significant differences regarding adolescent involvement in substance use and delinquent behavior at baseline among the adolescents included in the study and those who were excluded due to lack of parental data.

Data analysis

We used independent t-tests to analyze group differences. Next, we conducted two separate structural models (SEM) to analyze relations between aspects of the parent-adolescent relationship and adolescent self-reported substance use and delinquency two years later. Adolescent connectedness to parents (T1) and parenting competence (T1) were entered as correlated exogenous factors, followed by correlated factors of adolescent disclosure (T1), parental solicitation (T1) and behavioral control (T1), which were subsequently followed by parental knowledge (T1) and adolescent risk behaviors (T1) with adolescent risk behaviors (T2) entered as endogenous factors in the model. We used multi-group analysis to control for gender differences in the models.

Study III

Based on the results from Study I and Study II, where mean level links between parenting and adolescent behavior were studied uni-directionally, in Study III, my co-authors and I wanted to test the reciprocal links among constructs of parent-adolescent communication and adolescent substance use and whether the links differed among different subgroups of adolescents. Therefore, we conducted a two-wave bidirectional model using adolescent disclosure, parental knowledge, solicitation and behavioral control, and adolescent substance use to investigate a) the reciprocal links between parental knowledge and its sources and adolescent substance use, and b) whether the potential links were moderated by adolescent temperament type.

Sample

Data from three waves were used. Because adolescent temperament was one of the main variables in the study, the data was processed by first including the adolescents who completed the measurement of temperament during Wave 2 (T2). Thereafter, the data from Wave 1 (T1) and Wave 3 (T3) were added to the dataset resulting in a sample of $n = 1373$ adolescents. The adolescent mean age was 13.02 years ($SD = .60$), with 51.6 percent girls at the

baseline. Most of the adolescents lived with both their parents (80.9 %), while 8.8 percent lived with either the mother or the father, 9.7 percent alternating between the mother and the father and < .1 percent living in a foster family. According to adolescent self-reports of their family economy, 72.1 percent had as much money as their classmates, 16.0 percent had more money than their classmates and 11.9 percent reported having less money than their classmates. Compared with the respondents at the baseline ($N = 1515$), adolescents in the analytical sample reported somewhat higher adolescent disclosure ($p = .004$); higher parental solicitation ($p = .031$) and higher parental knowledge ($p = .024$). Thus, adolescents in the analytical sample reported somewhat higher parental knowledge and parent- and adolescent-driven communication efforts than non-respondents.

Data analysis

First of all, we applied cluster analysis to detect clusters of adolescents characterized by similar patterns in their temperament. This was done using ROPstat (Vargha et al., 2015), which is a statistical package used for person-oriented analyses. Ward's hierarchical clustering method was applied, followed by K-means clustering in order to optimize the homogeneity of the chosen cluster solution. We based the chosen cluster solution on (a) the theoretical meaning of cluster solution, (b) MORI coefficient (a significantly better solution than obtained from a random data set with the same size, variables and number of clusters), (c) the level of homogeneity in the cluster solution, ($HC = < 0.1$) and (d) the degree of explained variance (EESS%), which preferably should be above 67 % or at least exceed 50 % (Vargha et al., 2015). In the next step, using AMOS 23.0, we conducted a series of CFA:s (confirmatory factor analyses), to test the internal structure of adolescent disclosure, parental solicitation, parental behavioral control, and adolescent substance use and we ran a metric invariance test to ensure the equivalence of the constructs over time. After evaluating the goodness of fit (through chi-square ($p > .05$), Tucker Lewis index ($TLI > .95$), comparative fit indices ($CFI > .90$), and root mean square error of approximation ($RMSEA < .08$), a cross-lagged model with two repeated time points of the measures could be conducted. We used multi-group analyses to test the moderation of adolescent temperament type.

Study IV

Based on the results from the previous studies, in this study my colleagues and I wanted to understand whether the processes found on the general level, were meaningful between and within families. We separated the results based on differences between adolescents and their peers (between-family effect) and the results based on the fluctuations in families (within-family effect). Therefore, we conducted a three-wave model to investigate the reciprocal links among adolescent disclosure, parental solicitation, parental behavioral control, and adolescent delinquency, separating the between-family from within-family processes. We hypothesized a) negative links between parental behavioral control and adolescent delinquency, b) negative links between parental solicitation and adolescent delinquency, c) reciprocal links between adolescent disclosure and delinquency, and d) reciprocal links between adolescent disclosure and parental solicitation.

Sample

Three waves of data from two cohorts of adolescents, beginning in grade 6 ($n = 781$) and grade 7 ($n = 734$), were used. The analytical sample thus constituted all adolescents who responded at the baseline of the LoRDIA research program ($N = 1515$). The adolescents' mean ages at baseline and follow-up analyses were T1: $M = 13.01$ years ($SD = 0.60$); T2: $M = 14.33$ years ($SD = 0.64$); T3: $M = 15.65$ years ($SD = 1.09$). At the baseline, girls constituted 50.6 percent of the sample. Most students were of Swedish ethnicity (80.5%) and were living with both parents (80.6%). Out of all respondents at the baseline, 62.8 percent of the adolescents reported having as much money as their classmates, while 20.3 percent reported that their family had more money than their classmates' families and 16.8 percent reported that their family had less money than their classmates' families. Of all respondents at the baseline ($N = 1515$), 67 percent of adolescents responded in the study at T3. Attrition analyses revealed that adolescents who participated at T3 reported higher levels of adolescent disclosure ($p < .001$); parental behavioral control ($p = .040$); and lower levels of adolescent delinquency ($p < .001$) at the baseline. This indicates that adolescents who participated at T3 were somewhat more well-adjusted, shared more information with their parents and had more rules at home than those who did not respond.

Data Analysis

First, because skewness and kurtosis were unsatisfactory for delinquency at T1, T2 and T3, we used full information maximum likelihood method (FIML) with robust estimators, which can provide reliable estimates for samples with violated assumption of normality (Rhemtulla et al., 2012).

Next, we calculated the intra-class correlations (ICC) in all study variables. For adolescent disclosure, the ICC was .49, indicating that 49% percent of the variance in the three measures (T1-T3) of adolescent disclosure was explained by the difference between families, thus stable developmental circumstances. The remaining 51% of the variance within adolescent disclosure was explained by fluctuations within families, meaning that more than half of the variance in the measure was due to actual changes in adolescent disclosure. For parental solicitation and control, the ICC was .47 and .40 respectively. Finally, the ICC for adolescent delinquency was .43. Thus, the results indicated that 51% to 60% of variance in the variables in the study was explained by fluctuations over-time within the family. Therefore, a Random Intercept Cross-Lagged Panel Model (RI-CLPM), which partials out between-family variance and pertains within-family dynamics, was conducted (Hamaker et al., 2015). That is, it can examine how within-family fluctuations are related.

The RI-CLPM was constructed with four random intercepts, which represent the stable between-family differences in adolescent disclosure, parental solicitation, parental behavioral control, and adolescent delinquency. The random intercepts loaded onto the T1-T3 observed variables and each random intercept was correlated to control for the between-family correlation. Next, we regressed each observed variable on its own latent factor, with loadings set to one. Autoregressive (i.e., carry-over effect) and cross-lagged (i.e., influence of one variable on the other) within-family paths were then modeled between the three time points.

To pertain the most parsimonious models, we constrained the covariances, autoregressive stabilities and cross-lagged paths to be the same across time points. We tested the change in fit statistics (Satorra-Bentler scaled χ^2 -difference test, RMSEA, CFI, TLI) between unconstrained and constrained

models. There was significantly better fit in a model with time constraints which is why the constrained model was retained as the final RI-CLPM model.

Results and conclusions

Study I

Study I investigated the associations between sources of parental knowledge (adolescent disclosure, parental solicitation, and parental behavioral control), parental knowledge, adolescents' feelings of being overly controlled and adolescent risk behaviors and tested the moderating effect of gender. Results showed that adolescent disclosure, as well as parental behavioral control, were significantly associated with parental knowledge, which in turn was negatively related to adolescent risk behaviors. Adolescent disclosure was directly and indirectly, through parental knowledge, related to lower levels of all studied risk behaviors (adolescent substance use, bullying, and delinquency). Parental behavioral control was related to lower levels of adolescent substance use. Parental solicitation was directly associated with higher levels of adolescent delinquency and substance use and indirectly, through adolescent feelings of being overly controlled, to higher levels of bullying (see Figure 3).

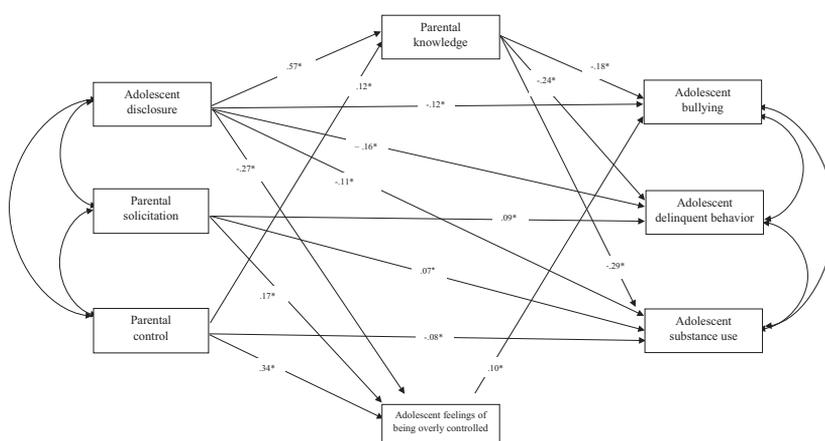


Figure 3. Mediating model showing relations among parenting variables and adolescent risk behaviors retrieved from Kapetanovic et al. (2017)

Adolescent boys engaged more in risk behaviors than girls, while girls reported more parental knowledge, parental behavioral control, parental solicitation as well as their own disclosure than boys. The links between adolescent disclosure and delinquent behavior, between parental solicitation and delinquent behavior, and between adolescent feelings of being overly controlled and bullying were significant for boys but not girls, while the link between parental knowledge and adolescent substance use was stronger for boys than for girls.

Taken together, although the causal inferences cannot be drawn because of the cross-sectional design in the study, the findings suggest that adolescent disclosure and establishing rules for behavior are the main correlates of parental knowledge. These parent-driven and adolescent driven efforts in communication, together with, or independent from parental knowledge, seem to be protective against adolescent engagement in risk behaviors. In contrast, parental solicitation seems to be related to higher levels of adolescent substance use and delinquency, while being overly controlled by parents is related to bullying. It could be that parents' actively searching for information may be perceived as intrusive by their adolescents, either because they have something to hide, or because they lack autonomy granted by their parents. Feeling overly controlled by parents could signal a lack of status in family, which adolescents compensate for among their peers. However, what enables parents to have knowledge of their adolescents' whereabouts and whatever longitudinal developmental links between parent- and adolescent-driven communication efforts and adolescent risk behaviors there may be, both need more investigation.

Study II

Study II investigated links among parent–adolescent connectedness, parenting competence, parental knowledge and sources thereof from parents' reports and adolescent-reported risk behavior, while also testing the moderating effect of adolescent gender. The analyses revealed that parental solicitation and control, and adolescent disclosure in particular, were associated with parental knowledge. Adolescent connectedness to parents was indirectly, through sources of parental knowledge, related to parental knowledge. Parenting

competence was both indirectly and directly related to parental knowledge. Adolescent disclosure was directly and indirectly, through parental knowledge, related to lower levels of adolescent risk behaviors over time. Parental solicitation had concurrent associations with higher levels of adolescent risk behaviors (see Figure 4 for the delinquency model). The stability in risk behaviors was stronger for boys than for girls. Also, links between adolescent connectedness to parents and parental control, and between adolescent disclosure and adolescent delinquency, were stronger for girls than for boys.

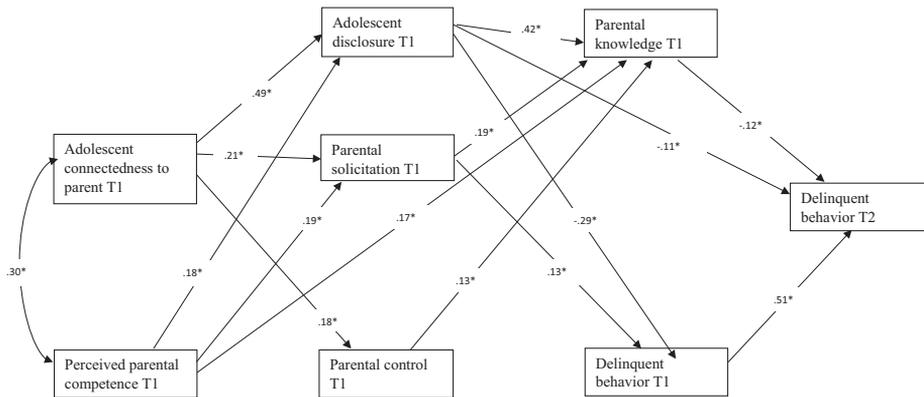


Figure 4. Mediation model showing relations between parenting variables and adolescent delinquency, retrieved from Kapetanovic et al. (2019).

The findings suggest that open communication between parents and their adolescents, facilitated through parental trust in their parenting abilities and strong bonds with their adolescents, is important for the adolescent development of risk behaviors. It is possible that open communication between parents and their adolescents gives parents opportunities to guide and support their adolescents and thereby protect them from engaging in risk behaviors over time. Although parental solicitation may be an adequate means for parents to obtain information about adolescent whereabouts, within-time links between parental solicitation and adolescent risk behaviors indicate that parents' questioning of adolescents may not necessarily be beneficial in protecting them from engagement in risk behaviors. Even though engagement in risk behaviors differs somewhat for boys and girls, the protective function of the parent-adolescent relationship is relevant for both boys and girls. The results in Studies I and II consistently show the protective role of adolescent

disclosure on adolescent risk behaviors in particular and the not so beneficent role of parental solicitation in adolescent risk behaviors. However, are these links equally relevant for all adolescents? Does one size fit all?

Study III

Study III investigated whether longitudinal associations between adolescent disclosure, parental knowledge, solicitation, and control on the one hand and one aspect of risk behavior, adolescent substance use, were moderated by adolescent temperament. Five distinct temperament clusters were detected in the data: 1. Detached and fearless (high NS, low HA, low RD), 2. Unstable (high NS, high HA, low RD), 3. Avoidant (low NS, high HA, low RD), 4. Sociable thrill seekers (high NS, low HA, high RD) and 5. Social and content (low NS, low HA, high RD) (see Figure 5). Adolescent disclosure was reciprocally and negatively associated with adolescent substance use, and showed positive links to parental knowledge, solicitation, and control at T3. Parental knowledge was negatively related to T3 adolescent substance use, while parental solicitation was positively linked to T3 adolescent substance use (see Figure 6). The moderation by temperament type was shown in four paths, namely from adolescent disclosure to adolescent substance use, from parental knowledge to substance use, from parental solicitation to substance use and from adolescent substance use to adolescent disclosure. Adolescent disclosure was negatively related to substance use for adolescents in the detached and fearless cluster and in the unstable cluster. Parental solicitation was positively related, while parental knowledge was negatively related, to adolescent substance use for adolescents in the detached and fearless cluster. Adolescent substance use was negatively related to adolescent disclosure for adolescents in the detached and fearless cluster as well as for adolescents in the social and content cluster.

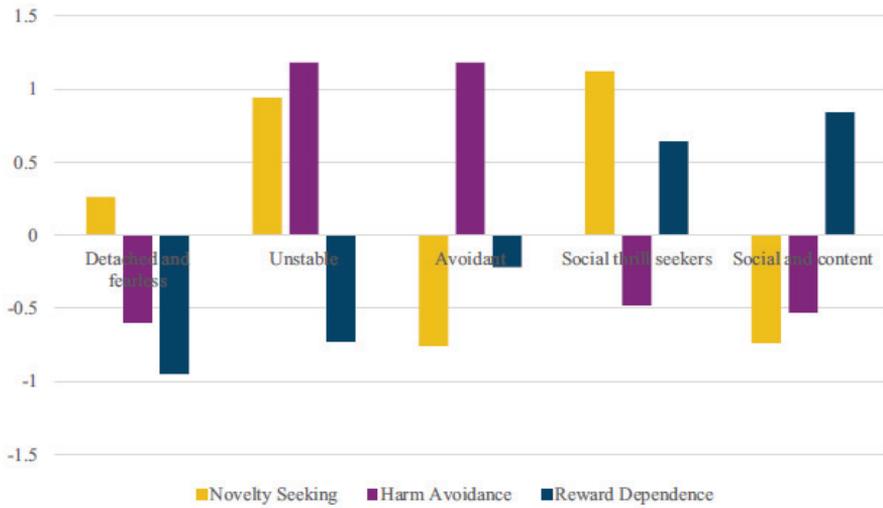


Figure 5. Five clusters with adolescents with distinct temperament types, retrieved from Kapetanovic et al. (2019)

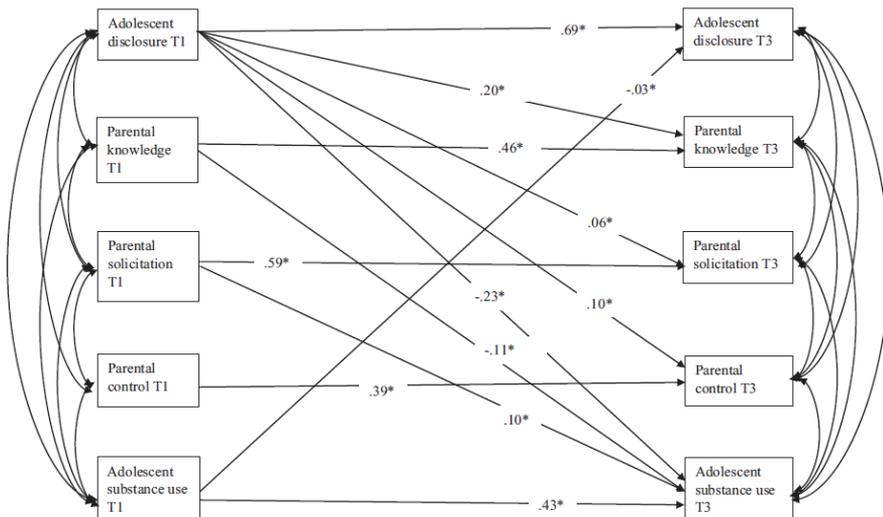


Figure 6. Bidirectional model with parenting variables and adolescent substance use, retrieved from Kapetanovic et al. (2019)

The findings suggested that the parent-adolescent interactions are reciprocal. While sharing information with parents can be protective against adolescent

engagement in substance use, adolescent behavior can jeopardize the adolescent's willingness to share information with their parents. This particularly seems to be the case for adolescents with temperamental tendencies toward fearlessness and social detachment or toward being unstable. In addition, adolescents with detached and fearless temperamental tendencies are also particularly sensitive to parental efforts to obtain information, reacting with more engagement in substance use. Adolescent disclosure and parental solicitation, thus seem to play different roles for different adolescents, depending on temperament type. Adolescents who are fearless and detached from parents or peers are differentially affected by adolescents' and parent's efforts in communication. In particular, adolescents with a temperamental inclination toward social detachment benefit from close relationships where they can openly share information with their parents without loss of integrity.

Study IV

In Study IV, we examined the reciprocal effects among adolescent disclosure, parental solicitation, parental behavioral control, and one aspect of adolescent risk behavior, namely delinquency, by disaggregating within-family from between-family variance in the possible links. The results revealed that at the between-family level of analysis – when the families are compared with each other – parents who solicited more, engaged more in behavioral control and had adolescents who engaged less in delinquency than adolescents whose parents solicited less. Moreover, adolescents who disclosed more across the three time points, engaged less in delinquency than their peers. They also had parents who solicited and imposed behavioral control more than their peers who disclosed less.

Some concurrent, within-family links were found. In years when parents increased their levels of behavioral control, their adolescents engaged less in delinquency, than in years when parents controlled adolescents' behavior less. In years when adolescents disclosed more, adolescents engaged less in delinquency and parents solicited more than in years when adolescent disclosure was low. In years when parents solicited more, parents tended to control their adolescents' behavior more. Over time associations showed that increases in parental behavioral control in one year, predicted decreases in

adolescents delinquency next year. In addition, when adolescents engaged in more delinquency in one year, they disclosed less to parents the next year. Also, when they disclosed more information in one year, they tended to engage less in delinquency the next year. Finally, increases in parental solicitation in one year predicted increases in adolescent disclosure at the next time point. The opposite was also true. An increase in adolescent disclosure in one year predicted increase in parental solicitation the next year. Furthermore, parents who increased their solicitation one year, decreased their behavioral control the next year. In addition, at times when adolescents communicate more with

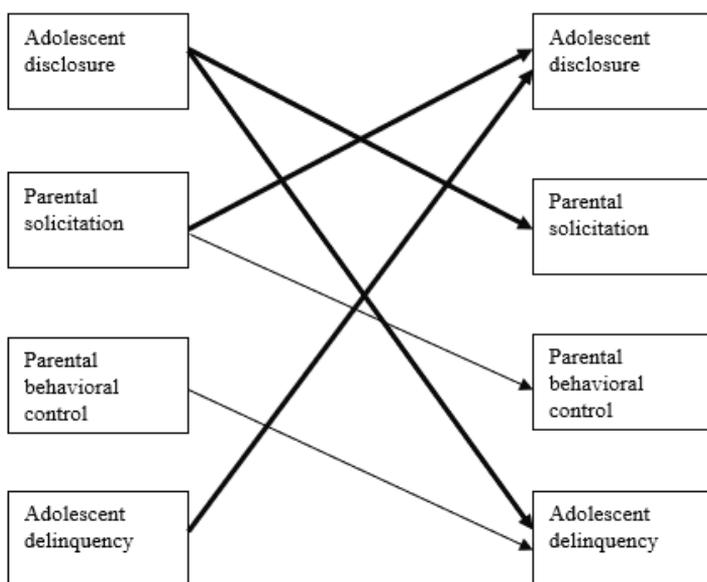


Figure 7. Overview of significant cross-lagged associations within families (bold lines are reciprocal)

Setting rules and establishing routines to control adolescent behavior can be protective against adolescent delinquency, although parents tend to relax their behavioral control as they solicit more information from their adolescents. Given that parental solicitation of information and adolescent disclosure seem to be intertwined aspects of parent-adolescent communication, it is possible that open communication between parents and the adolescents strengthens their relationship and mutual trust. When the trust is strong, parents can relax their control. In addition, at times when adolescents communicate more with

their parents, their level of engagement in delinquency is lower than before. On the other hand, the adolescent level of disclosure tends to decrease as adolescents start engaging in delinquency, both concurrently and over time. These findings strengthen the notion regarding the impact of open communication between parents and adolescents in terms of adolescents' psychosocial development and give rise to the questioning of the function of parental solicitation.

General discussion

Almost two decades ago, Steinberg (2001), in his often-cited paper, countered the popular view of adolescence as a period filled with turbulence and inevitable parent-adolescent conflicts. Although adolescence – early and mid-adolescence in particular, is a time of heightened risk for adolescent engagement in risk behaviors, such as delinquency and substance use, it does not always have to be the case. Parents are often seen as key figures in their children's development, who through their parenting strategies prevent adolescent engagement in risk behaviors and provide an environment for the healthy development of their adolescent children (Baumrind, 1991; Dishion & McMahon, 1998). How parents deal with their adolescents' behaviors does certainly matter. Yet, what adolescents do, seems to matter as well.

Throughout this thesis, I have placed an emphasis on the adolescent in the parent-adolescent relationship, and parent-adolescent relationship as a part of a dynamic process where both parents and adolescents influence each other. Literature often uses the term “parenting” to connote something that parents *do* to protect their children (e.g. Fletcher et al., 2004). Throughout the thesis, I have suggested that the link is not that simple. We conducted the studies where adolescents' own role in the parenting-adolescent relationship and development of risk behaviors was included. The goal of the thesis was to investigate how parent- and adolescent-driven communication efforts in parent-adolescent relationships relate to the development of risk behaviors in adolescence. The associations between different aspects of the parent-adolescent relationship and adolescent risk behaviors were studied by including the concepts of adolescent disclosure, parental knowledge,

solicitation and control, adolescent gender and temperament, and parents' perceived parenting competence and parent-adolescent connectedness. In Study I, we searched for answers to how parents obtain knowledge of adolescents' whereabouts and how parental knowledge and its potential sources – adolescent disclosure, parental solicitation, and behavioral control – relate to adolescent risk behaviors. Using adolescents' reports, the findings indicated that parents obtain knowledge of their adolescents mainly through the adolescent's voluntary sharing of information, i.e. adolescent disclosure, which was also linked to lower levels of all studied risk behaviors (substance use, delinquency, and bullying). Parents' control of adolescents' behaviors through rules and regulations was linked to lower levels of adolescent substance use and delinquency. However, parents' own efforts to obtain information appeared to be perceived as overly controlling by the adolescent, which in turn was linked with higher levels of adolescent involvement bullying. The links between adolescent disclosure and delinquency, parental solicitation and adolescent delinquency and the feelings of being overly controlled and bullying, were significant mainly for boys.

To obtain a more holistic picture of parent-adolescent communication, in Study II, we used parents' reports on different aspects of the parent-adolescent relationship. Using a short-term longitudinal design, in the second study the focus was on what parents report about their knowledge of adolescent whereabouts and what role parents' beliefs about their parent-adolescent relationship play in links between parental knowledge and its sources and an adolescent's self-reported risk behaviors. The results of Study II suggested that parents obtain knowledge of their adolescents' whereabouts through their own parenting efforts, and adolescent disclosure in particular. When parents perceived themselves as competent parents and the relationship between them and their adolescents as emotionally close, adolescents tended to share more information with them, which subsequently was linked to lower levels of adolescent engagement in risk behaviors over time. Just as in Study I, using adolescents' reports, the results from Study II showed that adolescent disclosure was the main predictor of parental knowledge and adolescent risk behaviors. On the other hand, while parental solicitation was not shown as a correlate of parental knowledge according to adolescent reports in Study I, parents' reports of solicitation showed positive links to parental knowledge. In addition, according to parents' reports, the link between adolescent

disclosure and delinquency was mainly significant for girls, and not for boys as the results in Study I showed.

To extend the findings from Study I and Study II, which both had unidirectional, main effect approaches in the analyses, in Study III, we used a bidirectional, interactive approach and investigated whether the links between different aspects of the parent-adolescent relationship and adolescent risk behavior (i.e., substance use) were reciprocal and similar for adolescents of different temperament types. The main findings indicated that adolescent disclosure and substance use were negatively and reciprocally related. Adolescent disclosure was also related to higher levels of parental knowledge, solicitation, and behavioral control over time. Parental solicitation was related to a higher level of adolescent substance use over time. In addition, to test the moderation by temperament type we extracted five clusters of adolescents with different temperament types, namely detached and fearless, unstable, avoidant, social thrill seekers, and social and content. While the links between adolescent disclosure and substance use did not reach the significance level for adolescents in avoidant, social thrill seeking, and the social and content clusters, the link between adolescent disclosure and substance use was negative for adolescents who were of the detached and fearless and unstable temperaments. When they engaged in open communication with their parents, they tended to show lower levels of substance use the next year. However, when parents asked questions about their whereabouts, adolescents with detached and fearless temperament tended to engage in substance use, possibly because they interpreted parents' queries as intrusive. According to the findings in Study III, adolescent disclosure and parental solicitation seem to play different roles for different adolescents, depending on their temperamental tendencies.

Because the previous studies in the thesis focused on the relative effects between individuals, in the final study, Study IV, the question of reciprocity in the parent-adolescent relationship and adolescent delinquency between and within families was tested. Here, my colleagues and I explored the links between parent-adolescent communication and adolescent delinquency separating between-family effects (adolescents compared with their peers) from within-family effects (changes in adolescents' own families over time). The results indicated that fluctuations in parental behavioral control were

linked to fluctuations in delinquency over time, while changes in adolescent disclosure were reciprocally linked to changes in adolescent delinquency. When parents used more behavioral control, adolescents decreased their delinquency over time. At times when adolescents disclosed more to their parents, adolescents engaged less in delinquency (both concurrently and over time), and vice versa. In addition, increases in adolescent disclosure were reciprocally linked with increases in parental solicitation, while increased solicitation predicted a decrease in parental behavioral control over time. I suggest that parental solicitation and adolescent disclosure could be intertwined aspects of parent-adolescent communication, where both parents and adolescents make an effort to interact. Such a suggestion can be somewhat contradictory to the findings in Studies I, II and III, from which I deduced that parental solicitation could be perceived as intrusive and therefore related to higher levels of risk behaviors. The design in Studies I and II was, however, unidirectional, which may have had an effect on the results. Although the associations were not found to be reciprocal in Study III, adolescent disclosure was indeed related to higher levels of parental solicitation over time. When the between-family and within-family variances were separated and links were constrained over time, we revealed the positive over-time associations between parental solicitation and adolescent disclosure in Study IV. Given the predictive effect of adolescent disclosure on adolescent delinquency, the findings in Study IV suggest that if parents are responsive and adolescents are willing to communicate, reciprocal actions in communication may strengthen the parent-adolescent relationship and protect adolescents from engagement in delinquency.

Altogether, the results in this thesis indicate that both adolescents and their parents play important roles in parent-adolescent relationships as well as in adolescent psychosocial development (i.e. engagement in risk behavior). These results call for a reconceptualization of “parenting” as a solely parental activity. According to Merriam-Webster dictionary parenting is “the raising of a child by its parents.” By definition, the word parenting suggests a one-way direction of influence, implying that parents are those responsible for their children’s development. This definition is in line with earlier social control theories (e.g. Baumrind, 1966; Hirschi, 1969) suggesting that parents’ actions shape children’s behaviors and psychosocial development. Parents’ actions are indeed relevant for children’s development; however, the agency

of the children and their own contributions to their development are hardly noticeable in the undertones of parenting as a concept. The results of this research project suggest that both parents and their adolescent children are agents in the parent-adolescent relationship and have mutual impact on the development of adolescent risk behaviors, which is why children's (or adolescents') actions should be considered in the concept of parenting. Although many findings are consistent across the studies, such as the protective effect of adolescent disclosure on adolescent risk behavior, some findings were less clear between studies and require more discussion. The questions raised include the role of parents' solicitation and behavioral control, parents perceived competence and connectedness with their adolescents, as well as which adolescents these results apply to. These topics will be discussed in the following sections.

Adolescents' and parents' efforts in parenting

Adolescence is a time when some adolescents start engaging in or increase their engagement in risk behaviors, such as delinquency and substance use. In order to prevent such a behavioral development, parenting literature (Baumrind, 1966; Darling & Steinberg, 1993; Maccoby & Martin, 1983) suggests that parents' practice matters for adolescent psychosocial development and thus prevention of engagement in risk behaviors. One such parenting practice is parental monitoring (Dishion & McMahon, 1998). The idea is that when parents supervise adolescents' activities, adolescents have fewer opportunities to engage in risk behaviors. Although the idea of the protective role of parental monitoring on adolescent deviance received a lot of attention and empirical evidence (e.g. Crouter & Head, 2002; Barnes et al., 2006; Williams & Steinberg, 2011), researchers have shown that the operationalization of parental monitoring was faulty because it measured in fact what parents *know* and not necessarily what they *do* (Kerr & Stattin, 2000; Stattin & Kerr, 2000). In addition, in their reconceptualization of monitoring, the same scholars showed that adolescents provided parents with information of their whereabouts, and that such disclosure of information was protective of adolescent engagement in risk behaviors. What parents did seemed to matter less. In other words, with their work, Stattin and Kerr (2000) brought attention to the role of the adolescent in the parent-adolescent relationship and their own psychosocial development.

In the current thesis, I tested the ideas put forward by Stattin and Kerr (2000) and contributed to the parenting literature through an examination of the processes in parent-adolescent relationships and links to adolescent risk behavior using modern modelling approaches with cross-sectional as well as longitudinal designs. Throughout the studies, risk behaviors such as bullying, delinquency and substance use were tested. It could be noted that adolescents' engagement in risk behaviors overall was seemingly rather low in comparison to the results in annual surveys among Swedish 9th graders (students who are 15 years of age) (e.g. Frenzel, 2016; Zetterqvist, 2018). However, the baseline measures of risk behaviors were measured during Wave 1, when adolescents were 12 and 13 years old, which may explain the lower degrees of engagement in risk behaviors. The level of engagement in risk behaviors generally increased as adolescents got older (see also Ander et al., 2019 and Turner et al., 2018). According to recent reports (e.g. Kraus et al., 2018), European adolescents generally show decreases in tobacco use and moderately decreasing trends in alcohol use. Although the reasons for decreasing trends in alcohol use are still unknown, there are indications (Ander et al., 2019) that parental attitudes and knowledge about adolescents' activities may play a role.

In the current thesis, the associations between parental knowledge of adolescents' whereabouts (and its sources) and adolescents' risk behaviors were tested. First, the cross-sectional analyses based on adolescent (Study I) and parents' reports on parent-adolescent communication (Study II) and longitudinal analyses (Study III) suggested that parents mainly obtain knowledge through adolescent disclosure. These results corroborate other studies (e.g. Keijsers et al., 2010; Kerr et al., 2010) indicating that the adolescent's own actions (their being willing to share information) are important features in a healthy parent-adolescent relationship. Although suggested as informative in other studies (e.g. Grolnick & Pomerantz, 2009; Laird et al., 2003), parents' efforts to obtain information were only modestly related to parents' knowledge of their adolescents' whereabouts. Interestingly, although parental solicitation and parental knowledge of adolescents' whereabouts were not related according to adolescents' reports in Study I, the link between the constructs was positive according to parents' reports in Study II. Parent-adolescent discrepancies of aspects of the parent-adolescent relationship are not unusual (e.g. De Los Reyes et al., 2010). While parents

tend to overestimate their parenting behaviors, adolescents tend to underestimate them, as shown in another study using the same sample as in Study II (Kapetanovic & Boson, 2019). The questions in the items, may even have different meanings to parents and adolescents, which could be why the results of parents' and adolescents' reports differ. However, independent of reporter, parental knowledge was shown to be mainly a product of adolescent disclosure. Just as in earlier studies on parental monitoring (knowledge) (e.g. Barnes et al., 2006; Williams & Steinberg, 2011), the studies in the current thesis (i.e., Studies I, II, and III) consistently showed that parental knowledge was linked to lower levels of adolescent risk behaviors. However, if parental knowledge is a product of the adolescent's sharing of information, then it is possible that the effects of parental knowledge shown in monitoring literature are in fact results of adolescents' own efforts to share information with their parents about their everyday activities. Therefore, the underlying mechanisms in parental knowledge needed to be studied further.

In order to obtain a clearer and more accurate picture of the parents' and adolescents' effects on adolescent risk behavior development, parents' strategies (parental solicitation and behavioral control) and adolescent disclosure as predictors of adolescent risk behaviors were tested separately. Based on the results of the cross-sectional (Study I) and longitudinal analyses (Studies II, III and IV) in this thesis, adolescent disclosure was shown to be protective against adolescent engagement in bullying, delinquency, and substance use. When adolescents share information with their parents, they tend to engage less in risk behaviors both concurrently and over time (see also Keijsers et al., 2010; Kerr et al., 2010). This was also true when we controlled for the fluctuations within families. Thus, in line with the idea that parent-adolescent relationships are dynamic and changing (Kuczynski & De Mol, 2015; Lerner, 2018; Sameroff, 2010), the results of Study IV suggested that an increase in adolescent disclosure was reciprocally linked to a decrease in adolescent delinquency concurrently and over time. When adolescents' delinquent behavior increased, their disclosure decreased. These findings are novel in their nature and contribute to the literature by showing the critical value of having family environments where adolescents can voluntarily share information with their parents. Studying parent-adolescent relationships and adolescent risk behaviors by structural equation modelling, longitudinal designs and differentiation between between-family and within-family effects

provide parenting literature with novel findings on the processes that take place in families and the mechanisms involved in those processes. The fluctuations in aspects of the parent-adolescent relationship have rarely been tested before. Those studies that have considered fluctuations in parent-adolescent communication efforts included unidirectional links between parenting and adolescent outcomes (e.g. Rekker et al., 2017). The results on fluctuations in parent-adolescent communication are novel given that only one prior study has investigated the reciprocal links between adolescent disclosure and delinquency (Keijsers, 2016), however with a considerably smaller sample. Adolescent sharing of information not only seems to contribute to parents having information about what their adolescents are doing, but also shows in what manner adolescents themselves contribute to the development of risk behaviors. When they share information with their parents, adolescents indirectly include their parents in their lives, providing parents with possibilities to guide and support them. Moreover, adolescents change their own behaviors as their communication with their parents changes. Thus, their willingness to communicate with their parents seems to be reflected in their behavior. In sum, whether or not adolescents share information with their parents seems to be central for their psychosocial development, and thus engagement in risk behaviors.

Have the central assumptions in the monitoring literature been completely wrong? Not really, it seems. What parents do seems to matter as well, in terms of adolescents' involvement in risk behaviors. Although the effects were modest, in line with other studies (Fletcher et al., 2004; Grolnick & Pomeranz, 2009; Jansen et al., 2016) the findings in Study I and Study IV suggest that parental behavioral control can be protective of adolescent experimentation with substances or engaging in delinquency in early to mid-adolescence, a time when adolescents increase their engagement in delinquency. Just as suggested by Baumrind (1966), structuring the adolescent's environment by demanding compliance with rules and norms, can be protective in their development. However, what parents achieve with their parenting practices is not necessarily straightforward. Critiquing Baumrinds' notion of control, Lewis (1981) proposed that it is not a matter of parents' exerting control over their children, but rather about children accepting the demands and therefore acting accordingly. Thus, adolescents may accept the rules and the demands that parents have, internalize their values and therefore refrain from engaging

in delinquent behaviors. But what if adolescents perceive parents' practices as too excessive? In Study I and in line with other research (Kakihara & Tilton-Weaver, 2009), we found that higher levels of parental behavioral control as well as parental solicitation were related to adolescents' perceptions of being overly controlled, which in turn was related to higher levels of bullying. Parents of adolescents who bully seem to employ punitive or authoritarian parenting practices (Baldry & Farrington, 1998), which is often reflected in the adolescents' sense of lost personal control and restricted autonomy (Baumrind, 1969). In order to regain or enhance their sense of control, adolescents from such homes may try to attain a stronger social position in school, through for instance, bullying others (Thornberg, 2015). In other words, if adolescents perceive that they are overly controlled by their parents, they could feel that their personal sense of autonomy is at stake, which in turn could result in more control-inducing behaviors toward peers who are disadvantaged.

The question of parental solicitation is even more complex. In theory (Dishion & McMahon, 1998), soliciting information from adolescents is deemed a parental strategy protective of adolescent behavioral development. However, earlier research on the link between parental solicitation and adolescent risk behaviors is inconsistent. While some studies show positive links (Kerr et al., 2010), others show non-significant (Criss et al., 2015) or negative links between parental solicitation and adolescent risk behavior (Laird et al., 2003). As shown in Studies I and IV, higher levels of parental solicitation were associated with lower levels of adolescent risk behavior in the bivariate analyses. Although not published, the bivariate analyses in Study II and III showed similar results (see Appendix 1 and 2). Such results would indicate that adolescents whose parents solicit information from them, desist from engaging in delinquency, in line with Laird et al. (2003). However, when predicting adolescent risk behavior through parental solicitation and adolescent disclosure, the link to parental solicitation seems to change direction, resulting in a positive link between parental solicitation and adolescent risk behavior, as seen in Studies I, II, and III. In other words, when we statistically control for the effect that adolescent disclosure has on risk behavior, parental solicitation does not seem to be protective against adolescents' engagement in risk behaviors. Although this might seem somewhat counterintuitive, one explanation is that parental solicitation is not

necessarily an advantageous parenting practice if adolescents are not willing to share information. Further analyses of moderation and mediation in the links among parental solicitation, adolescent disclosure, and risk behaviors should be tested in the future.

How could parental solicitation be linked to increased engagement in risk behaviors in adolescents? Although the questions that parents ask may, from an adult perspective, be perceived as harmless (e.g. where their adolescents have been after school and what they have done), adolescents could interpret these questions as a sign of parental involvement (Tokić et al., 2018) or as an invasion of privacy (Hawk et al., 2008). One reason for perceiving parents' questions as an invasion of privacy may be due to the lack of autonomy granted by parents (Hawk et al., 2008) or because adolescents have done something that they know their parents would not approve of, and thus feel they have something to hide (Smetana et al., 2009). If adolescents find their parents' queries intrusive, that could harm the parent-adolescent relationship (Hawk et al., 2009). When the relationship between parents and adolescents is poor, parents have fewer opportunities to connect with and guide their adolescents, which may result in adolescent engagement in risk behaviors. In sum, although parents' actions appear to matter for protecting adolescents from engaging in risk behaviors, how adolescents perceive parents' actions seems to be important for the function and consequences of the parenting actions.

One interesting finding in this thesis, however, was the positive link found between parental solicitation and adolescent disclosure. While the results in Study III suggested that parents' solicitation was predicted by adolescent disclosure, the results in Study IV showed that parental solicitation was reciprocally and positively linked to adolescent disclosure both between and within families. In addition, parents seem to relax rules over time (e.g., about when the adolescent should be home) as parents' solicitation increases, as shown in Study IV. Although parental solicitation and parental behavioral control are seen as aspects of parental monitoring (Willoughby & Hamza, 2011), I propose an alternative idea. Based on the results from correlations (in Studies I and IV; see also Appendix 1 and 2) and the longitudinal analyses (Study III and Study IV), parental solicitation and adolescent disclosure could be seen as intertwined aspects of parent-adolescent communication. Such an

idea could make an important contribution to parenting literature by showing the interconnected processes in parent-adolescent interactions, where both parties are dependent on each other's actions. Possibly, when adolescents are willing to share information about their whereabouts with their parents, that may prompt parents to be more involved which they show through interacting with their adolescents, by asking questions, possibly as an act of genuine interest in their adolescents' lives (Keijsers et al., 2010). In that case, adolescents may also be more willing to accept parents' questions and share more information with them. As a result of successful communication between themselves and the adolescents, the parent-adolescent relationship is strengthened, and parents can relax their rules and behavioral demands. Including such reciprocal processes in the concept of parenting shows interdependence between parents and their children. Although Maccoby and Martin (1983) do recognize the reciprocity in parent-child interactions, they mainly acknowledge parents as those in control of the interaction. The child is referred to as either compliant or non-compliant. Based on the results of this thesis, I suggest that the child (i.e. the adolescent) is highly involved in the process of parenting, not only by compliance or non-compliance, but by actively affecting the interactions between themselves and their parents, and the adolescent's own development. How adolescents perceive parental questions (as suggested earlier), as well as how parents respond to what adolescents tell them (Tilton-Weaver et al., 2010) are both crucial for this interactive process of parent-adolescent communication. More research is needed to understand the mechanisms in parent-adolescent communication and what parents intend with their questions. Asking adolescents how they perceive parents' questions about their whereabouts and how they respond to such questions and asking parents when and in what manner they ask questions about their adolescents' whereabouts, would help explain the links between parental solicitation and adolescent disclosure. Seen from the results of this thesis, parents' strategies, adolescent information sharing, and the reciprocity in parent-adolescent interactions are important mechanisms for building healthy parent-adolescent relationships, communication, and adolescent psychosocial development.

The role of parents' beliefs

As has been shown hitherto, in what way parents and adolescents interact is central for adolescent development. From the results of the thesis, it is evident that particularly adolescent disclosure seems to be of importance for adolescent development, although parental behavioral control and parental solicitation are of relevance as well. What are the antecedents of parent-adolescent interactions? The state of the parent-adolescent relationship can depend on what parents and adolescents have made out of their earlier interactions, or what expectations they have in and for their relationship. For example, how parents interact with their adolescents may depend on how competent parents perceive themselves to be (Bandura, 1977; Glatz & Buchanan, 2015a). When parents perceive themselves to be competent parents, i.e. who know how to handle certain difficulties in their adolescents' lives, parents tend to engage in supportive parenting practices, such as discussing when the adolescent misbehaved or giving compliments and advice (Glatz & Buchanan, 2015b) and promoting healthy adolescent development (Jones & Prinz, 2005). The results of Study II indicate that perceived parenting competence is indeed related to how they communicate with their adolescents. When parents perceive themselves to be competent as parents, they report that they actively show interest in their adolescents' lives by asking questions, and their adolescents willingly share information with them. It is possible that parents with high parental self-efficacy engage in competent parenting by balancing their own demands with being responsive to their adolescents' needs. In this way, the communication between parents and adolescents is strengthened and parents can be more invested in their adolescents' lives. In line with Glatz and Buchanan (2015b), it is possible that parents are able to cope with challenges that may turn up when their child enters adolescence by finding strategies to remain knowledgeable of their adolescents' activities. This could provide an explanation for the direct link between perceived parenting competence and parental knowledge. On the other hand, if parents do not perceive themselves as being competent as parents, they can have a hard time providing support and guidance to their adolescents. In turn, that could have an impact on adolescent psychosocial development, including engagement in risk behaviors (Jones & Prinz, 2005). Accordingly, depending on how parents perceive themselves in their role as parents can be favorable

or disadvantageous for their relationship and communication with their adolescents, as well as for adolescent psychosocial development.

Perceived connectedness between adolescents and parents is another type of belief parents have that is important for the parent-adolescent relationship and adolescent development. The emotional climate in the family is a foundation for parent-adolescent interactions, implementation of parenting practices and adolescent development (Darling & Steinberg, 1993; Dishion & McMahon, 1998). It is through the history of interactions that parents and children construct their expectations of each other and create a base for their relationship. In that sense, strong emotional bonds between parents and adolescents could be central for a healthy parent-adolescent relationship. For example, studies indicate that parent-adolescent connectedness is linked to more parental knowledge and adolescent disclosure (Kerns et al., 2001; Tilton-Weaver, 2014). This is in line with the results of Study II, showing that parent-adolescent connectedness is linked to parenting practices, and adolescent disclosure in particular. When parent-adolescent bonds are strong, parents engage more in solicitation and behavioral control, and adolescents tend to share more information with their parents. Given the strong correlational effects between adolescent disclosure and parent-adolescent connectedness, I suggest that a close parent-adolescent bond is a prerequisite for parent-adolescent relationships where adolescents voluntarily keep their parents knowledgeable of their activities. When emotional bonds are strong, parent-adolescent communication is strong. To conclude, how parents and adolescents interpret their earlier interactions is a foundation for how they will interact now. If the previous interactions have been poor, parents can lose trust in their own abilities to interact with their adolescents. If emotional bonds between parents and adolescents are perceived as poor, their adolescents can distance themselves from their parents (Tilton-Weaver et al., 2010), and parents would have a hard time protecting them from harmful activities. In contrast, if parents perceive themselves as able to manage their role as parents, and have strong emotional bonds with their adolescents, adolescents would be more likely to keep parents included in their lives, which would give parents better opportunities for protecting their adolescent from engagement in risk behaviors.

Adolescent gender and temperament

Are the identified links between aspects of parent-adolescent relationships generalizable to all adolescents? In her conceptualization of parenting styles, Baumrind (1966) recognized that children may respond differently to parents' attempts to control. While some children adjust their behavior accordingly, others react in an assertive manner. In line with Bell's (1968) notion that children and parents regulate each other's behavior, children may respond differently, depending on their individual characteristics. Some of those characteristics are adolescent gender and temperament. This thesis contributes to parenting literature by showing in what way the interplay between contextual demands and individual characteristics – adolescent gender and temperament – shapes adolescent development.

Children's gender is embedded in a societal context, with preexisting expectations and attitudes about behavioral development of boys and girls (Leaper & Farkas, 2015). Thus, society's attitudes about the role of males and females in social interactions, are reflected in parents' attitudes about their children's behavioral development and developing self-concepts. Because parents may have different expectations for their daughters and sons (Leaper, 2002), their interactions may differ and have different meanings depending on the gender of the child. In line with the findings in Studies I and II, girls tend to be more protected by their parents (Fontaine et al., 2009; Keijsers et al., 2010; Kerr & Stattin, 2000), even though boys generally engage more in risk behaviors such as delinquency (Junger-Tas, 2012). The results in Study I suggested that higher levels of parental knowledge were more strongly related to lower levels of substance use in girls than in boys, while adolescent disclosure was negatively related to delinquency in boys. However, the results in Studies I and II are somewhat contradictory regarding the links between adolescent disclosure and boys' and girls' behavior. Although the link was significant for both genders, the results in Study II found that the link between adolescent disclosure and delinquency was stronger for girls than for boys. While in Study I the reporters were the adolescents, in Study II, the reporters were the parents. One explanation for discrepant views of the parent-adolescent relationship is that the view of the parent-adolescent relationship is guided by the preconceptions, or expectations of such a relationship (Bussey & Bandura, 1999). As girls usually are brought up to conform to societal rules

and norms (Vieno et al., 2009), parents may expect their daughters to be more engaged in the sharing of information than they would expect from their sons. It is then likely that parents overrate their daughters' disclosure yet underrate their sons' disclosure. In addition, the results of Study I indicate that the more overly controlled boys felt and the more parental solicitation they experienced, the more they engaged in risk behaviors. Because of the cross-sectional design of the study, the direction of the effects is impossible to determine. However, other studies suggest that adolescent boys are more secretive than girls, at least until late adolescence (Keijsers et al., 2009) which is why boys could be more sensitive to parents' questions and demands and therefore react in an oppositional manner. While parents tend to encourage emotionally close relationships with their girls, while tolerating more self-assertion in boys (Borawski et al., 2003; Leaper & Farkas, 2015), the cost of keeping secrets, and thus disclosing less, could be higher for girls, than for boys. On the other hand, boys tend to engage more in delinquency than girls do, as shown in Study I as well as other research (Moffitt & Caspi, 2001; Junger-Tas, 2012), which is why boys may be more likely to feel they have something to hide and parents more likely to make the effort to solicit information from them. In sum, adolescents' gender appears to matter for their relationships to their parents and possibly also for the role of parent-adolescent relationships and communication for adolescents' engagement in risk behavior.

What role does adolescent temperament play in adolescent interactions with their parents? In Study III, my colleagues and I argued that adolescent temperament may be of particular importance when studying the effects of parent-adolescent relationships. Accordingly, we showed empirically that being able to openly communicate with parents appears beneficial for adolescents with detached and fearless and adolescents with unstable temperamental tendencies. Parental solicitation appears disadvantageous particularly for adolescents with detached and fearless temperamental tendencies in terms of their engagement in substance use. The detached and fearless adolescents are impulsive and oppositional, while adolescents with an unstable temperament seem to be thrill seekers (high novelty seeking), who tend to expect severe negative outcomes, creating a strong inner tension, which they cannot regulate with the help of others due to high levels of detachment.

In line with Belsky et al. (2007) our findings indicate that some adolescents may be disproportionately vulnerable to different aspects of parenting. To clarify, adolescents with certain temperamental tendencies (i.e. negative affect or fearlessness) (Goldsmith et al., 1987) are shown to be highly sensitive to stimuli and susceptible to forces in the environment (Aron et al., 2012). Moreover, these adolescents have difficulties regulating their emotional and behavioral expressions (Steinberg & Cauffman, 1996), making them more inclined to engage in risk behaviors, such as substance use (Hartman et al., 2013). The low levels of reward dependence (i.e. detachment from others) can provide difficulties for adolescents to regulate their thrill-seeking tendencies and inner tensions, which may be the case for adolescents of detached and fearless temperament type. Accordingly, while some adolescents are less sensitive to parents' actions (Belsky, 2005), adolescents with a detached and fearless temperament could perceive parents' actions (such as asking for information), as intrusive and interpret them in a hostile manner (Zeijl et al., 2007). When interpreted as such, these adolescents would become even more detached from their parents, resulting in parents having fewer possibilities to guide their adolescents, and more adolescent engagement in risk behaviors. In contrast, when the home environment offers opportunities for adolescents to tell their parents about their whereabouts and activities, parents get more opportunities to guide their adolescents, resulting in less involvement in risk behaviors. Based on the results of Study III, it is clear that effects from different aspects of the parent-adolescent relationship may vary depending on adolescent temperament.

Because of the configuration in their temperament dimensions, adolescents in the detached and fearless as well as adolescents in the unstable temperament cluster can be at risk for developing severe antisocial or emotional problems, particularly if their temperament is combined with poor self-directedness (being immature and irresponsible) and poor cooperativeness (being empathetic and tolerant) (Cloninger et al., 1993). For that matter, providing emotionally close environments where adolescents can feel free to share information about their everyday activities with their parents can be central for adolescents at risk in particular. When they have a trusting and emotionally connected relationship with their parents, where they can openly share information, adolescents can learn to regulate their emotional tendencies and be more likely to stay away from harmful activities.

Methodological discussion

Conducting research may involve some methodological difficulties. In the current thesis, the conceptualization of parental monitoring, solicitation and control has been a challenge. Despite Stattin and Kerr's (2000) reconceptualization of monitoring, a large number of studies still use the concept of monitoring, when measuring parental knowledge (e.g. Williams & Steinberg, 2011; Yap et al., 2017). To avoid misconceptions, when comparing our results with the results in such studies, we consistently referred to the concept as parental knowledge. In addition, parental solicitation and control are, in some research, referred to as "parental monitoring behaviors" (Willoughby & Hamza, 2011), while other scholars differentiate between parental solicitation (as a monitoring practice) (Criss et al., 2015) and parental behavioral control (managing adolescents' behavior) (Fletcher et al., 2004). Moreover, parental solicitation assesses parents' efforts to communicate, thus parents asking adolescents questions in order to have the adolescent tell them about their lives. Telling parents about one's everyday life is in turn measured by adolescent disclosure. Although sometimes referred to as "spontaneous disclosure of information" (e.g. Kerr & Stattin, 2000), adolescent disclosure is not necessarily spontaneous, but may in fact be prompted by parents' soliciting efforts (as shown in Study IV). These two aspects of communication could together measure parent-adolescent communication and could be investigated more as such. In addition, the measure of adolescent disclosure includes two reversed questions about adolescents hiding information from their parents (e.g. Do you keep secrets from your parents about what you do during your free time). Researchers suggest that adolescent disclosure could be better assessed if disclosure and secrecy are treated as separate factors (Lionetti et al., 2017). Although I do acknowledge that disclosure and secrecy may distinctly relate to the parent-adolescent relationship and adolescent development (Tilton-Weaver, 2014), in order to compare results with earlier monitoring literature, adolescent disclosure was assessed using the original Stattin and Kerr (2000) scale of measurement. Finally, as parental control is a multidimensional construct, in which both psychological and behavioral control can be included (Grolnick & Pomerantz, 2009), the term "parental control" can be confusing. Although we use the term in Studies I and II, we conceptualize it as parents' rules and behavioral regulation, if nothing else is

stated. In Studies III and IV, we tried to address the issue by referring to parents' rules and expectations as "parental behavioral control."

Limitations and strengths

The thesis has some limitations and strengths that need to be discussed. For instance, our parenting measures did not differentiate between parenting of mothers and of fathers. In other words, it was possible that adolescents' reports on parenting were shaped by the parenting behaviors of one parent more than the other. As mothers' and fathers' practices may differ (Waizenhofer et al., 2004) and their effect on adolescent behaviors may vary, particularly in interaction with the gender of the adolescent (McKinney & Renk, 2008), measuring mothers' and fathers' parenting practices separately could clarify potentially different parenting processes. Because parents were given the option to fill out the questionnaire in cooperation with each other, this complicated any chance of analyzing data separately for mothers and for fathers. It was, however, deemed necessary in order to acquire responses from more families. In addition, there is the ever-present problem of attrition in longitudinal research (e.g. Boys et al., 2003; Hansen et al., 1985), which was also evident in the LoRDIA project. While twelve percent of the invited adolescents were excluded from the total sample due to a lack of parental or their own consent, an internal drop-out rate of 13 % percent was also noted between Wave 1 and Wave 3. However, a small rate of attrition does not necessarily threaten the validity of the results (Hansen et al., 1985). On the other hand, a more serious problem with attrition, and the generalizability of the results, was evident when parents were included in the LoRDIA project, which resulted in only 29 % of all invited parents being part of the program. In Study II, where we combined parents' reports with adolescents' reports, a large portion of adolescents were excluded due to a lack of parental data, resulting in a somewhat biased sample and results. Indeed, out of 1520 adolescents in Wave 1, most adolescents (N = 970) were excluded due to a lack of parental data (see attrition analyses in the Methods section). In general, individuals who are in a vulnerable position in society (such as immigrant minorities) as well as the parents of children with behavior problems, are less likely to participate in studies (Eisner et al., 2019). Although reasons for the non-participation of parents in the LoRDIA project are only speculative, the sensitive topics in surveys (in our case questions regarding the parents' own

substance use and psychological health), may be one reason for non-participation. Another reason may involve the poor quality of relationships between parents and their children which may be carried over to participation in studies where questions about parent-child relationships and children's development are asked.

Some of the scales of measurement (i.e. parenting measurements) were recoded from 5-point to 3-point Likert scales which reduced the variability in the scales. Although this could involve loss of raters' discriminative powers, recoding the 5-point scale into a scale with 3 points is not necessarily a problem for validity and reliability of the measurement (Jacoby & Matell, 1971; Krosnick, 2018). In Wave 1 data, alphas were tested for 5-Likert and the reduced 3-Likert scales, without considerable differences in the internal reliabilities of the scales, which is why 3-Likert scales were used in later waves. Despite a decrease in variability, and in line with the suggestion by Jacoby and Matell (1971), reliability was not affected by this procedure and found to be acceptable. However, the reliability of adolescent ratings of substance use during Wave 1 was questionable, possibly due to low involvement in substance use at such a young age (i.e. 12 and 13 years of age). Measures of substance use were developed in Sweden, and are usually used in surveys with youth in 9th grade (> 15 years). Also, some of the measurements in JTCI, which was assessed by 108 true/false statements, had somewhat low alphas (e.g. HA $\alpha = .58$). Using such measures among younger adolescents may potentially produce biased answers or nonresponse, possibly because of their cognitive-developmental stage (including the processing of information, working memory capacity, attention) (Edwards & Romero, 2008; Kovacs, 2003). Younger adolescents (< 14 years) seem to have more limited understanding of the questions and tend to ignore the contextual information when decoding questions (Fuchs, 2005), which is why these points should be considered when doing research with children/adolescents.

Demographic factors such as ethnicity, neighborhood, and socioeconomic status were not controlled for in the models in this thesis. Some variations in parenting and its links to adolescent behavior seem to exist among different subgroups (e.g. Rekker et al., 2017; Smetana, 2017). Particularly as migration and immigration are on the rise, and since living conditions such as segregation and unemployment (Berghner, 2016) put challenges on parent-

child relationships, further research that takes into consideration these issues is needed. Next, adolescent school and peer contexts were not included in the models. Although adolescents are included in several different contexts, among them school and peers, in this thesis I focused on the parent-adolescent context, as parents are often seen as the key subjects in children's development. Nonetheless, as adolescents spend a great amount of time in school, as well as with peers, the interactive effects of these contexts could be a focus of future studies on adolescent development.

Despite these shortcomings the thesis has several strengths and contributes to the literature in significant ways. The unique prospective longitudinal design in LoRDIA provides the possibility of studying adolescent development from early to late adolescence and the processes in parent-adolescent relationships over time. Such a design also provides the possibility of using advanced methodological approaches, such as structural equation models or random-intercept, cross-lagged models, which can provide more robust suggestions about the structure and processes between different mechanisms in parenting and adolescents' behaviors. For example, separating between-family from within-family effects in parent-adolescent interactions can help scholars as well as practitioners when drawing inferences about processes between parents and their adolescent children. Also, focusing on the time of early adolescence, when adolescents spend more time away from parents' direct supervision, is an important contribution for prevention. Detecting correlates of early adolescent risk behaviors provides critical insights for interventions and the prevention of any development of more severe problem behavior. In addition, factoring individual characteristics into a study of parenting is a novel approach to studying parenting during adolescence. Applying such an approach in parenting models helps to identify which parenting practices are beneficial or detrimental to which adolescents. Also, as parenting includes interactions between different family members, including both parents' and adolescents' reports in studies on parenting provides important insight into the perspectives that different family members may have. Elucidating the perspectives of different family members can be feasible when constructing interventions for families. As such, different aspects of the parent-adolescent relationship, such as parental self-efficacy and parent-adolescent connectedness can be explicated and provide a more nuanced picture of the dynamics in parent-adolescent interactions.

Practical implications

Parenting is not a one-way street. Parent-adolescent relationships and interactions change, and it is important for parents to keep up with the developmental changes in their adolescents' lives. At this developmental stage of adolescent lives – early to mid-adolescence – parenting is about keeping adolescents safe, as well as about granting them autonomy and developing mutual trust.

One finding in this thesis is that both parents and adolescents do matter in terms of adolescent engagement in risk behaviors. Therefore, when determining the implications for practitioners working with families, prevention and social policies, it would be reasonable to take into consideration both parents and their adolescents. Why? I have shown that parents are able to protect their adolescents from engaging in risk behaviors by having rules and the expectation that their adolescents tell them where they are going and with whom. Such practices are informative for parents and provide structure in adolescents' lives (Leijten et al., 2019). The other side of the coin, however, is that parental practices can be perceived as overly controlling by adolescents, and backfire with more and not less engagement in risk behavior. Although parenting programs tend to recommend behavioral control and parental solicitation as adequate parenting practices (e.g. Dishion et al., 2003), what seems to be lacking in the recommendations is adolescents' perception of practices that parents employ. If adolescents perceive parents' practices as illegitimate or depriving them of their autonomy, such practices would either be inconsequential or result in poorer developmental outcomes in those adolescents.

Moreover, adolescents are deeply involved in managing information that parents have and by such means, they contribute to their own development. When they engage in trusting and emotionally close relationships with their parents their engagement in risk behavior decreases. Therefore, when meeting families of teens, a fundamental step could be to focus on emotional closeness between parents and their adolescents (Leijten et al., 2019), which in turn would be a core for parent-adolescent communication, and adolescents voluntary sharing of information with their parents, in particular. A word of

caution, however: we need to be careful when making inferences solely based on the main effects at the population level. As families differ from each other and fluctuate in their practices and behaviors, the recommendations we make may not apply to individual families. I have, however, shown that adolescents who disclose more information to their parents than their peers indeed engage less in delinquency over time, but I have also suggested that changing levels of disclosure in adolescents are reflected in adolescent behavior as well as in parents' efforts to communicate over time. When adolescents are open to sharing information with their parents, it is easier for parents to engage in two-way communication with their adolescents and possibly also easier to give support and guidance without being perceived as intrusive. Recommending that parents be observant of changes in their adolescents could be relevant for their future development as well as the parent-adolescent relationship.

Adolescent developmental premises can vary, which is why universal parenting recommendations may not be suitable for all families. I have suggested that adolescents with personality types that are detached and fearless and partly those with an unstable temperament are differentially susceptible to different aspects of the parent-adolescent relationship. Groups of people with these temperaments, when combined with immaturity, are at risk of developing personality disorders of dramatic types, e.g. antisocial and emotionally unstable personality disorders, both known to have an increased risk of developing substance abuse and behavioral problems in adulthood (Cloninger & Cloninger, 2011). The findings of our study show that adolescents with detached and fearless temperament type seem to be negatively affected by parents soliciting efforts possibly because they interpret them as intrusive. On the other hand, they, as well as those with unstable temperament type seem to profit from environments where they can share information, which they show by being less involved in risk behaviors such as substance use. Early interventions with special attention given to parent-adolescent communication, could help adolescents with detached and fearless as well as unstable temperaments to learn to regulate their behaviors and emotional reactions, which in turn could stimulate the maturation processes in these adolescents. As they mature, they could possibly be more likely to refrain from engaging in risk behaviors and have a healthier development. Interventions in families and with professionals working with children (such as schools) could give more attention to processes that happen in interactions

between the person (in this case the adolescent) and the context (in this case the practices employed in families or schools) and be observant of how these interactions influence the psychosocial development in adolescents.

In short, the findings in this thesis highlight the importance of considering both parents' actions and adolescents' actions and perceptions of parenting when creating interventions and parenting models for prevention of risk behaviors in adolescence. Moreover, the findings place an emphasis on the dynamics in the parent-adolescent relationship and adolescent susceptibility to different aspects of the parent-adolescent relationship, which could be used as starting points for developing new models where healthy adolescent development is in focus.

Where do we go from here?

This dissertation provides important insights into the developmental links between aspects of parent-adolescent relationships and adolescent engagement in risk behaviors. However, important questions remain, which future research should try to address.

Psychosocial development occurs in different domains and contexts. Adolescents move between physical areas (such as home, school, streets) to cyber areas (social media, Internet) and must learn to be prudent, while also dealing with issues of a personal and moral character. Adolescent lives are complex, and it is possible that different domains in adolescent development need specific attention from parents (Grusec & Davidov, 2015). More research should be devoted to finding an answer to questions such as, how parents talk to their adolescents about alcohol, bullying, and sexual behaviors, or what information adolescents want to share with their parents. Moreover, for adolescents, the Internet is an everyday arena in which many developmental issues come up (Ungdomsstyrelsen, 2012). However, more research is needed on how parents handle different issues that their adolescents deal with online. Specific-domain parenting models could provide more knowledge of how practitioners, as well as parents, could approach specific issues that adolescents deal with.

Although the home environment (i.e. family) is the primary developmental context where children grow, children and adolescents also move to other contexts which are of importance for their development. Specifically, peers seem to have an impact on adolescent development (Borawski et al., 2003). Future research should therefore investigate more closely the interactions between parents, peers, and adolescents. It would be interesting to find out whether different aspects of the parent-adolescent relationship influence the selection of peers in adolescence, and what impact these processes have on adolescent psychosocial development. Applying social network analyses to peer and parenting data could provide some answers to our questions about these developmental processes.

In this thesis, I have shown that parenting can have different meanings for different adolescents, but more research on this issue is needed. Different family members, such as mothers, fathers, or siblings may have reasonably similar or dissimilar personalities which could make their interactions more or less difficult. Person-centered approaches (Bergman et al., 2003) can help to discover subgroups with similar personality profiles, which in turn can be used to investigate how different family members with similar or dissimilar personality types interact with and affect each other.

Throughout this thesis, I have raised an issue about adolescents' perceptions of parents' questions about adolescents' everyday lives and parents' intentions with such questions. As the results regarding the links between parental solicitation and adolescent risk behavior are somewhat counterintuitive, future research should focus on parents' and adolescents' experiences within parent-adolescent communication. Possibly, studies with qualitative design could shed more light on how parents and adolescents communicate, how they perceive their communication efforts, and what they intend with their communication.

Parent-adolescent relationships and adolescents' interactions with others are dynamic and can vary on a daily basis. The question is, however, whether we can truly understand such dynamics by studying interactions through repeated measurements on a year to year basis? Intensive data sampling through, for instance, daily diaries (see e.g. Villalobos et al., 2015) could help us to study the dynamics in the interactions between adolescents and their contexts over a short period of time. Using technological devices, such as mobile phones, to sample (diary) data could be an efficient and practical method for future research to employ.

Conclusions

- Both parents and adolescents appear actively to contribute to parent-adolescent relationships and adolescent engagement in risk behaviors.
- When adolescents share information of their whereabouts and activities with their parents, they seem to provide parents with information about their everyday lives and contribute to their own development by engaging less in risk behaviors, such as delinquency.
- Having control of adolescents' whereabouts by setting behavioral rules (e.g. that adolescents tell parents where they're going and with whom) may help parents to protect their adolescents from involvement in risk behaviors. However, if parents' controlling efforts are perceived as overly invasive, adolescents may feel deprived of their autonomy, and be more involved in risk behaviors, such as bullying.
- Parents' soliciting of information from their adolescents could relate to more engagement in risk behaviors, such as substance use. On the other hand, if adolescents talk to their parents about their everyday lives, parents' queries for information could prompt more communication between parents and adolescents, which would possibly result in less adolescent engagement in risk behaviors.
- Parental self-efficacy and emotional bonds between parents and adolescents seem to be prerequisites for adolescent disclosure.
- Adolescents' individual characteristics, such as gender and temperament, matter in terms of how aspects of the parent-adolescent relationship are linked to adolescent development. Boys, and adolescents with detached and fearless temperament type, are sensitive to parents' soliciting efforts, but in terms of their involvement in risk behaviors, they seem to benefit from adolescent disclosure in particular.

- Becoming aware of the interplay among parents' beliefs about their parent-adolescent relationships and their competence as parents, parents' actions, adolescents' willingness to share information, adolescents' perceptions, and their individual characteristics, could be an important step in promoting healthy, parent-adolescent relationships and preventing adolescents from engaging in risk behaviors.

Populärvetenskaplig sammanfattning

Ungdomstiden kan vara omtumlande både för tonåringar och deras föräldrar. Tonåringar går genom olika utvecklingsfaser som bidrar till förändring i beteenden och inte minst i deras relation till sina föräldrar. Från att ha varit helt beroende av dessa, börjar tonåringar sträva efter mer självbestämmande och umgänge med kompisar. De spenderar dessutom allt mindre tid i närvaro av sina föräldrar vilket, i sin tur, kan öppna upp för tillfällena att börja syssla med riskbeteenden, såsom ungdomsbrottslighet (snatteri, vandalisering), substansbruk (alkohol och tobak) och mobbning. Dessa beteenden kan, i sin tur, vara skadliga för tonåringars utveckling. För föräldrar kan ungdomstiden därför vara en tid av växande oro för sina barns välbefinnande samtidigt som relationen mellan föräldrar och deras barn är i förändring.

Enligt FN:s Barnkonvention är föräldrar ansvariga för att skydda sina barn och bereda dem en gynnsam utveckling. Trots tonåringars strävan efter självbestämmande och allt större inverkan från kompisar, har föräldrarna fortfarande den primära rollen som beskyddare och möjliggörare av en gynnsam utveckling för sina barn. Det är dock just under ungdomsåren som det kan vara som mest ansträngande för föräldrar att veta hur de kan skydda sina barn på bästa sätt. En av rekommendationerna som föräldrar kan få är att ha uppsikt över vad deras tonåringar gör på dagarna för att kunna stödja och vägleda dem. Ett annat vanligt råd är det är viktigt att sätta upp regler hemma och att höra sig för hos sina tonåringar och deras vänner för att kunna få information om vad de sysslar med. Tanken är att föräldrar, genom sådana föräldrastrategier, minskar risken för att deras tonåringar utvecklar ett riskbeteende. Men är det så enkelt? I en föräldra-barnrelation ingår både föräldrar och deras tonåring. Tonåringarna påverkar själva det som sker i relationen till föräldrarna och vilka vägar i livet han eller hon ska ta. För att få svar på hur tonåringars riskbeteenden kan förebyggas, bör således inte bara deras föräldrar utan även de själva tas i beaktande.

Fokus för denna avhandling var att undersöka vilken betydelse som kommunikationen mellan föräldrar och tonåringar, som en del av föräldra-barnrelationen, har för utveckling av ungdomars riskbeteenden. I avhandlingen undersöktes vilket samband som föräldrars strategier, såsom

regler och frågor kring tonåringens förhållanden, har med tonåringars riskbeteenden. Här undersöktes också om ungdomars egna berättande om sitt vardagsliv spelar roll för huruvida de sysslar med riskbeteenden, men också om tonåringars temperament och kön spelar roll för sambandet mellan olika former av kommunikation mellan föräldrar och tonåringar och tonåringars riskbeteende. Med hjälp av datamaterial från drygt 1500 ungdomar (ålder 12–15 år) och i viss mån deras föräldrar, från fyra mellansvenska kommuner, gjordes fyra studier i vilka dessa frågor undersöktes.

Studie I

I denna studie undersöktes betydelsen av föräldrars strategier och tonåringars berättande om sitt vardagsliv, som ett led i föräldra-barnkommunikationen, för föräldrars insyn i sina tonåringars förhållanden och för mobbning, ungdomsbrottslighet och bruk av alkohol, tobak och droger hos pojkar och flickor i 12- och 13-års åldern. All information samlades in vid ett och samma tillfälle. Resultaten visade att pojkar i högre grad än flickor rapporterade att de har utsatt jämnåriga för mobbning, vandaliserat och snattat samt testat alkohol, tobak och droger. Vidare visade resultaten att det är främst tonåringars berättande som stod för föräldrars insyn om tonåringars aktiviteter. När tonåringar delar med sig av vad de gör på dagarna sysslar de även i mindre grad med samtliga riskbeteenden. Detta gäller framför allt pojkar. Föräldrars regler kring tonåringars förhållanden är kopplade till lägre grad av alkohol-, tobak- och drogbruk. Å andra sidan kan föräldrars strategier även vara kopplade till en känsla hos tonåringar av att vara överkontrollerade av sina föräldrar vilket i sin tur har samband med mobbning av jämnåriga. När föräldrar ställer frågor om tonåringens förhållanden verkar det inte ha samband med vad de vet om sina tonåringar. Istället är föräldrars frågor kopplade till högre grader av ungdomsbrottslighet och bruk av alkohol, tobak och droger. Resultaten tyder på att främst tonåringars eget berättande om sitt vardagsliv är betydande för föräldrars insyn i sina tonåringars liv och har betydelse för ungdomars involvering i riskbeteenden.

Studie II

I denna studie undersöktes sambandet mellan aspekter av föräldra-barnrelationen (närhet mellan föräldrar och barn, föräldrars självtillit, samt föräldra-barnkommunikation) och ungdomsbrottslighet och alkohol- och tobaksbruk. Till skillnad från studie I där enbart tonåringars rapporter användes, kombinerades i studie II föräldrars rapporter om aspekter av föräldra-barnrelationen med ungdomars rapporter om sina riskbeteenden över en period av två år. I likhet med ungdomars rapporter i studie 1, visade resultaten utifrån föräldrars rapporter, att det främst var tonåringars berättande som står för föräldrars insyn om tonåringars aktiviteter. Föräldrars frågor var kopplat till högre grader av ungdomsbrottslighet och bruk av alkohol och tobak hos den unge. När tonåringar berättade för sina föräldrar vad de gör i sin vardag, sysslade de dock i lägre grad med riskbeteenden över tid. Att ungdomar berättar kan relateras till en nära relation mellan dem och deras föräldrar, vilket i sin tur kan vara en viktig faktor för öppen kommunikation dem emellan. Vad föräldrar vet om sina tonåringars förehavanden var kopplat till hur mycket tillit föräldrarna har till sig själva i sin roll som föräldrar. När föräldrar har en nära relation till sina tonåringar och när de litar på sin förmåga att hantera utmaningar i föräldraskapet verkar de kunna ha en öppen kommunikation med sina tonåringar och ha insyn i deras förehavanden. Dessa faktorer verkar vara viktiga för att föräldrarna ska kunna skydda sina barn mot riskbeteenden i de tidiga tonåren.

Studie III

Enligt fynden i Studie I och II verkar tonåringars berättande vara den primära skyddsfaktorn mot att de involveras i riskbeteenden. Föräldrars frågor om tonåringars vardagsaktiviteter visade sig, å andra sidan, ha samband med högre grad av riskbeteenden hos tonåringarna. I denna studie var frågan på vilket sätt föräldrars insyn och strategier (regler och frågande), tonåringars berättande om sitt vardagsliv och bruk av alkohol och tobak samspelar över en period av två år och om tonåringars temperamentstyp spelar roll för hur dessa samband ser ut. Först visade resultaten att fem temperamentstyper kunde urskiljas bland tonåringar, nämligen de "Självständig och orädd", de "Instabila", de "Undvikande", de "Socialt spänningssökande" och de "Sociala och nöjda". Tonåringar av "Självständig och orädd" typ är livliga och utan

fruktan inför nya utmaningar samtidigt som de håller distans till andra. Tonåringar av ”Instabil” typ är spänningssökare som samtidigt visar höga nivåer av ångest och distans till andra, medan tonåringar av ”Undvikande” typ karakteriseras av håglöshet och ångestfylldhet. ”Sociala spänningssökare” söker spänning i livet samtidigt som de är måna om relationer till andra medan ungdomar av ”Social och nöjd” temperamentstyp också är måna om relationer till andra, men är utan intresse att söka spänning i sin vardag. Vidare visade resultaten att tonåringars berättande var kopplade till föräldrars insyn och strategier över tid, men också på hur mycket tonåringar använder alkohol och tobak. När tonåringar kan prata med sina föräldrar blir föräldrar upplysta om vad deras ungdomar gör och kan själva bidra till interaktionen med egna föräldrastراتيجier, samtidigt som ungdomarna rapporterar lägre grader av alkohol och tobaksanvändning över tid. Å andra sidan var föräldrars frågor kopplade till högre grader av alkohol- och tobaksanvändning över tid. Det långsiktiga sambandet mellan tonåringars berättande och föräldrars frågor å ena sidan och alkohol och tobaksbruk å andra, gällde främst ungdomar av ”Självständig och orädd” typ, och delvis även för ungdomar av ”Instabil” typ. Detta tyder på att ungdomar som är spänningssökare samtidigt som de håller distans i relationen till andra människor gynnas mest av nära och öppna relationer med sina föräldrar där de själva kan dela med sig av information om sin vardag. Samtidigt verkar dessa ungdomar känsliga för föräldrars frågor som de möjligtvis tolkar som inkräktande.

Studie IV

På vilket sätt föräldrar och tonåringar kommunicerar och hur mycket tonåringar sysslar med ungdomsbrottslighet kan variera över tid inom familjen. Som en led i en process av ömsesidig påverkan mellan föräldrar och tonåringar, gjordes i denna studie en skillnad på samband mellan föräldrars regler, frågor, tonåringars berättande och ungdomsbrottslighet *mellan* familjer och processer mellan aspekter av föräldra-barnkommunikation och ungdomsbrottslighet *inom* familjer över en period av tre år. En sådan åtskillnad i resultaten kan vara viktig för att förstå vad som händer när man jämför familjer med andra familjer kontra när man tar hänsyn till förändringsprocesser som sker inom en och samma familj. Resultaten visade att föräldrar som frågade mer, hade mer regler med också hade tonåringar som i mindre grad sysslade med ungdomsbrottslighet jämfört med föräldrar som

inte ställde motsvarande frågor om sina tonåringars vardagsliv. Tonåringar som berättade om sina aktiviteter sysslade också i lägre grad med ungdomsbrottslighet och hade föräldrar som hade mer regler och ställde frågor om tonåringars vardag, än de tonåringar som inte pratade med sina föräldrar. Processer inom familjerna tyder på att föräldrars ökade regler resulterade i mindre brottslighet hos deras tonåringar. Vidare visade resultaten en dubbelriktad process mellan tonåringars berättande och ungdomsbrottslighet å ena sidan, och tonåringars berättande och föräldrars frågor å andra. När tonåringar pratade mindre med sina föräldrar tenderade deras brottsliga beteenden att öka nästa år, men när dessa beteenden minskade följdes det av mer öppen kommunikation om deras vardagsliv från tonåringar till föräldrar. När tonåringar pratade om sina vardagsaktiviteter ökade föräldrars frågor, vilka i sin tur resulterade i mer kommunikation mellan föräldrar och deras tonåringar, men även mindre regler över tid.

Slutsatser

Både föräldrar och tonåringar bidrar till relationen dem emellan, vilket i sin tur har betydelse för tonåringars engagemang i riskbeteenden, där tonåringars berättande om sitt vardagsliv (öppen kommunikation) verkar spela en framstående roll. När ungdomar pratar om sina aktiviteter med sina föräldrar verkar det bidra till en högre insyn hos föräldrar om deras tonåringars aktiviteter samtidigt som tonåringarna ägnar sig i mindre grad åt olika riskbeteenden, såsom ungdomsbrottslighet och alkohol- och tobaksanvändning. Hur mycket tonåringar berättar för sina föräldrar och i hur hög grad de är involverade i brottsliga beteenden tycks ömsesidigt inverka på varandra. När de delar med sig information om sin vardag till sina föräldrar sysslar de i mindre grad med brottsliga beteenden, men när brottsliga beteenden ökar, minskar deras berättande över tid. Faktorer som gör öppen kommunikation mellan föräldrar och tonåringar möjlig är dels en nära relation mellan föräldrar och deras barn och dels föräldrars självtillit i sitt föräldraskap. Föräldrar som är trygga i sin föräldraroll och som upplever sig ha emotionellt nära förhållande till sina barn, verkar investera mer i sitt föräldraskap genom att sätta upp regler och höra sig för om deras tonåringars förehavanden, men de uppmuntrar samtidigt en öppen kommunikation från tonåringars sida. Föräldrars regler kring tonåringars förehavanden kan också vara en viktig faktor genom vilken föräldrar kan skydda sina barn från riskbeteenden. När

föräldrar ökar sina regler om tonåringars förehavanden, minskar tonåringars normbrytande aktiviteter. Samtidigt kan föräldrars regler vara en bidragande faktor till känslan av överkontrollerande från föräldrarnas sida. Att uppleva sig överkontrollerad av sina föräldrar kan i sin tur resultera i att man utsätter andra för obehag såsom mobbning. Detta sker möjligtvis på grund av ett otillfredsställt behov av autonomi. Föräldrar kan uppmuntra sina tonåringar att delta i öppen kommunikation genom att intresserat ställa frågor om deras vardag. Samtidigt är det viktigt att ta hänsyn till hur dessa frågor uppfattas, så att det inte blir förhör, som tvärtom kan resultera i ökat engagemang i riskbeteenden. I synnerhet pojkar och ungdomar med spänningssökande temperament och som håller distans i relation till andra människor kan vara känsliga för föräldrars frågor, samtidigt som de särskilt gynnas av att kunna kommunicera med sina föräldrar.

Åtgärder som syftar till att förebygga ungdomars mobbning, ungdomsbrottslighet och alkohol- och tobaksanvändning, bör ta aspekter av föräldra-barnrelation och kommunikation i beaktande. Beroende på tonåringars individuella egenskaper kan olika former av kommunikation mellan föräldrar och tonåringar vara mer eller mindre gynnsamma i relation till tonåringars riskbeteenden. Särskilda insatser skulle förhoppningsvis kunna in för att främja öppen kommunikation mellan föräldrar och tonåringar för att i sin tur förebygga eller minska tonåringars riskbeteenden.

References

Alderson, P., & Morrow, V. (2011). *The ethics of research with children and young people: A practical handbook*. SAGE publications Ltd.

Ander, B., Abrahamsson, A., & Bergnehr, D. (2017). 'It is ok to be drunk, but not too drunk': party socialising, drinking ideals, and learning trajectories in Swedish adolescent discourse on alcohol use. *Journal of youth studies*, 20(7), 841-854.

Ander, B., Fransson, E. I., Bergnehr, D., & Gerdner, A. (2019). Onset of substance use among early adolescents in Sweden. *Journal of Social Work Practice in the Addictions*.

Aron, E. N., Aron, A., & Jagiellowicz, J. (2012). Sensory processing sensitivity: A review in the light of the evolution of biological responsivity. *Personality and Social Psychology Review*, 16(3), 262-282.

Arnett, J. J. (1999). Adolescent storm and stress, reconsidered. *American psychologist*, 54(5), 317-326.

Arnett, J. J. (2006). G. Stanley Hall's Adolescence: Brilliance and nonsense. *History of psychology*, 9(3), 186-197.

Baldry, A. C., & Farrington, D. P. (1998). Parenting influences on bullying and victimization. *Legal and Criminological Psychology*, 3(2), 237-254.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191.

Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child development*, 67(6), 3296-3319.

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.

Bates, J.E., & Pettit, G.S. (2015) Temperament, Parenting, and Socialization. In Grusec, J. E., & Hastings, P. D. (Eds.), *Handbook of socialization: Theory and research* (2nd ed. 372-397). The Guilford Press.

Battin-Pearson, S., Newcomb, M. D., Abbott, R. D., Hill, K. G., Catalano, R. F., & Hawkins, J. D. (2000). Predictors of early high school dropout: A test of five theories. *Journal of educational psychology*, 92(3), 568.

Baum, K. T., Desai, A., Field, J., Miller, L. E., Rausch, J., & Beebe, D. W. (2014). Sleep restriction worsens mood and emotion regulation in adolescents. *Journal of Child Psychology and Psychiatry*, 55(2), 180-190.

Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child development*, 887-907.

Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs*, 75(1), 43-88.

Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *The Journal of Early Adolescence*, 11(1), 56-95.

Bell, R. Q. (1968). A reinterpretation of the direction of effects in studies of socialization: A family study. *Archives of General Psychiatry*, 43, 1085-1089.

Belsky, J. (2005). Differential susceptibility to rearing influence. In B.J. Ellis & D.F. Bjorklund (Eds.), *Origins of the social mind: Evolutionary psychology and child development*, (p. 139-163) The Guilford Press.

Belsky, J., & Beaver, K. M. (2011). Cumulative-genetic plasticity, parenting and adolescent self-regulation. *Journal of Child Psychology and Psychiatry*, 52(5), 619–626.

Belsky, J., Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (2007). For better and for worse: Differential susceptibility to environmental influences. *Current directions in psychological science*, 16(6), 300-304.

Belsky, J., & Pluess, M. (2009). Beyond diathesis stress: differential susceptibility to environmental influences. *Psychological bulletin*, 135(6), 885-908.

Bergnehr, D. (2016). Mothering for discipline and educational success: Welfare-reliant immigrant women talk about motherhood in Sweden. *Women's Studies International Forum*, 54, 29-37.

Bergman, L. R., Magnusson, D., & El Khouri, B. M. (2003). *Studying individual development in an interindividual context: A person-oriented approach*. Psychology Press.

Berry, D., & Willoughby, M. T. (2017). On the practical interpretability of cross-lagged panel models: Rethinking a developmental workhorse. *Child Development*, 88(4), 1186-1206.

Bogenschneider, K., Small, S. A., & Tsay, J. C. (1997). Child, parent, and contextual influences on perceived parenting competence among parents of adolescents. *Journal of Marriage and the Family*, 59(2), 345-362.

Borawski, E. A., Ievers-Landis, C. E., Lovegreen, L. D., & Trapl, E. S. (2003). Parental monitoring, negotiated unsupervised time, and parental trust: The role of perceived parenting practices in adolescent health risk behaviors. *Journal of Adolescent Health*, 33(2), 60-70.

Boson, K., Brändström, S., & Sigvardsson, S. (2017). The Junior Temperament and Character Inventory (JTCI): Psychometric properties of multi-informant ratings. *Psychological Assessment*, 30, 550-555.

Bowlby, J. (1978). Attachment theory and its therapeutic implications. *Adolescent psychiatry*.

Boys, A., Farrell, M., Taylor, C., Marsden, J., Goodman, R., Brugha, T., ... & Meltzer, H. (2003). Psychiatric morbidity and substance use in young people aged 13-15 years: results from the Child and Adolescent Survey of Mental Health. *The British Journal of Psychiatry*, 182(6), 509-517.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, 22, 723-742.

Bumpus, M. F., Crouter, A. C., & McHale, S. M. (2001). Parental autonomy granting during adolescence: Exploring gender differences in context. *Developmental psychology*, 37(2), 163-173.

Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological review*, 106(4), 676-713.

Byrne, M.B. (2010). *Structural equation modeling with AMOS. Basic concepts, applications, and programming*. 2nd ed. Routledge. New York.

Capaldi, D.M., Patterson, G.R. (1989). Psychometric properties of fourteen latent constructs from the Oregon Youth Study. New York: Springer-Verlag

Chambers, R.A., Taylor, J.R., Potenza, M.N. (2003). Developmental neurocircuitry of motivation in adolescence: A critical period of addiction vulnerability. *American Journal of Psychiatry*, 160, 1041–1052.

Cloninger, C. R., & Cloninger, K. M. (2011). Person-centered therapeutics. *International Journal of Person Centered Medicine*, 1(1), 43-52.

Cloninger C.R., Svrakic D.M., & Przybeck T.R. (1993). A psychobiological model of temperament and character. *Archives of General Psychiatry*, 50(12), 975–989.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.

Collins, W. A., Madsen, S. D., & Susman-Stillman, A. (2002). Parenting during middle childhood. In M.H. Bornstein (Ed.), *Handbook of parenting: Vol. 1* (p. 73-101). Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.

Collado, A., Felton, J. W., MacPherson, L., & Lejuez, C. W. (2014). Longitudinal trajectories of sensation seeking, risk taking propensity, and impulsivity across early to middle adolescence. *Addictive behaviors*, 39(11), 1580-1588.

Coleman, P. K., & Karraker, K. H. (1998). Self-efficacy and parenting quality: Findings and future applications. *Developmental review*, 18(1), 47-85.

Criss, M. M., Lee, T. K., Morris, A. S., Cui, L., Bosler, C. D., Shreffler, K. M., & Silk, J. S. (2015). Link between monitoring behavior and adolescent adjustment: An analysis of direct and indirect effects. *Journal of Child and Family studies*, 24(3), 668-678.

Crouter, A. C., & Head, M. R. (2002). Parental monitoring and knowledge of children. *Handbook of parenting*, 3, 461-483.

Darling, N., Cumsille, P., Caldwell, L. L., & Dowdy, B. (2006). Predictors of adolescents' disclosure to parents and perceived parental knowledge:

Between-and within-person differences. *Journal of Youth and Adolescence*, 35(4), 659-670.

Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological bulletin*, 113(3), 487-496.

De Los Reyes, A., Goodman, K. L., Kliewer, W., & Reid-Quinones, K. (2010). The longitudinal consistency of mother–child reporting discrepancies of parental monitoring and their ability to predict child delinquent behaviors two years later. *Journal of youth and adolescence*, 39(12), 1417-1430.

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.

Dishion, T. J., Nelson, S. E., & Kavanagh, K. (2003). The family check-up with high-risk young adolescents: Preventing early-onset substance use by parent monitoring. *Behavior Therapy*, 34(4), 553-571.

Edwards, L. M., & Romero, A. J. (2008). Coping with discrimination among Mexican descent adolescents. *Hispanic Journal of Behavioral Sciences*, 30(1), 24-39.

Eisner, N. L., Murray, A. L., Eisner, M., & Ribeaud, D. (2019). A practical guide to the analysis of non-response and attrition in longitudinal research using a real data example. *International Journal of Behavioral Development*, 43(1), 24-34.

Ellis, B. J., Del Giudice, M., Dishion, T. J., Figueredo, A. J., Gray, P., Griskevicius, V., ... & Wilson, D. S. (2012). The evolutionary basis of risky adolescent behavior: implications for science, policy, and practice. *Developmental psychology*, 48(3), 598.

Enebrink, P., Danneman, M., Mattsson, V. B., Ulfsdotter, M., Jalling, C., & Lindberg, L. (2015). ABC for parents: pilot study of a universal 4-session program shows increased parenting skills, self-efficacy and child well-being. *Journal of Child and Family Studies*, 24(7), 1917-1931.

Estrada, F., & Flyghed, J. (2017). *Den svenska ungdomsbrottsligheten*. Studentlitteratur

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.

Fontaine, N., Carbonneau, R., Vitaro, F., Barker, E. D., & Tremblay, R. E. (2009). Research review: A critical review of studies on the developmental trajectories of antisocial behavior in females. *Journal of Child Psychology and Psychiatry, 50*, 363–385.

Fowler, P. J., Toro, P. A., Tompsett, C. J., & Baltes, B. B. (2009). Community and family violence: Indirect effects of parental monitoring on externalizing problems. *Journal of prevention & intervention in the community, 37*(4), 302-315.

Frenzel, A. (2016). *Skolundersökningen om brott 2015: Om utsatthet och delaktighet i brott*. Rapport 2016:21. Brottsförebyggande rådet. Stockholm.

Friends (2018). *Friendsrapporten 2018*. Stockholm

Fuchs, M. (2005). Children and adolescents as respondents. Experiments on question order, response order, scale effects and the effect of numeric values associated with response options. *Journal of Official Statistics, 21*(4), 701.

Fulgini, A. J., Bai, S., Krull, J. L., & Gonzales, N. A. (2017). Individual differences in optimum sleep for daily mood during adolescence. *Journal of Clinical Child & Adolescent Psychology, 1-11*.

Glatz, T., & Buchanan, C. M. (2015a). Change and predictors of change in parental self-efficacy from early to middle adolescence. *Developmental psychology, 51*(10), 1367-1379.

Glatz, T., & Buchanan, C. M. (2015b). Over-time associations among parental self-efficacy, promotive parenting practices, and adolescents' externalizing behaviors. *Journal of Family Psychology, 29*(3), 427.

Glew, G. M., Fan, M. Y., Katon, W., Rivara, F. P., & Kernic, M. A. (2005). Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of pediatrics & adolescent medicine, 159*(11), 1026-1031.

Goldsmith, H. H., Buss, A. H., Plomin, R., Rothbart, M.K., Thomas, A., Chess, S., . . . McCall, R. B. (1987). Roundtable: What is temperament? Four approaches. *Child Development, 58*, 505–529.

Government offices of Sweden (2019). Convention on the Rights of the Child will become Swedish law. Retrieved from:
<https://www.government.se/articles/2018/03/new-legislative-proposal-on-the-convention-on-the-rights-of-the-child/>

Gripe, I. (2015). *Skolelevers drogvanor. CAN rapport 154*. [Alcohol and drug use among students]. Stockholm, Sweden: Centralförbundet för alkohol och narkotikaupplysning (CAN) [The Swedish Council for Information on Alcohol and Other Drugs].

Grolnick, W. S., & Pomerantz, E. M. (2009). Issues and challenges in studying parental control: Toward a new conceptualization. *Child Development Perspectives, 3*(3), 165-170.

Grusec, J. E., & Davidov, M. (2015). Analyzing socialization from a domain-specific perspective. In Grusec, J. E., & Hastings, P. D. (Eds.), *Handbook of socialization: Theory and research* (2nd ed. 158-181). The Guilford Press.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (Vol. 7). Upper Saddle River, NJ: Pearson Prentice Hall.

Hall, G. S. (1904). *Adolescence: Its psychology and its relation to physiology, anthropology, sociology, sex, crime, religion, and education* (Vols I & II). Englewood Cliffs, NJ: Prentice-Hall.

Halpern, H. P., & Perry-Jenkins, M. (2016). Parents' gender ideology and gendered behavior as predictors of children's gender-role attitudes: A longitudinal exploration. *Sex roles, 74*(11-12), 527-542.

Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods, 20*(1), 102-116.

Hansen, W. B., Collins, L. M., Malotte, C. K., Johnson, C. A., & Fielding, J. E. (1985). Attrition in prevention research. *Journal of Behavioral Medicine, 8*(3), 261-275.

Harris-McKoy, D. (2016). Adolescent Delinquency: Is Too Much or Too Little Parental Control a Problem?. *Journal of Child and Family Studies, 25*(7), 2079-2088.

Hartman, C., Hopfer, C., Corley, R., Hewitt, J., & Stallings, M. (2013). Using Cloninger's Temperament Scales to predict substance-related behaviors in adolescents: A prospective longitudinal study. *The American Journal on Addictions, 22*, 246-251

Hawk, S. T., Hale III, W. W., Raaijmakers, Q. A., & Meeus, W. (2008). Adolescents' perceptions of privacy invasion in reaction to parental solicitation and control. *The Journal of Early Adolescence, 28*(4), 583-608.

Hawk, S. T., Keijsers, L., Hale III, W. W., & Meeus, W. (2009). Mind your own business! Longitudinal relations between perceived privacy invasion and adolescent-parent conflict. *Journal of Family Psychology, 23*(4), 511-520.

Healey, A., Knapp, M., & Farrington, D. P. (2004). Adult labour market implications of antisocial behaviour in childhood and adolescence: findings from a UK longitudinal study. *Applied Economics, 36*(2), 93-105.

Hirschi, T. (1969). *Causes of Delinquency*. 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*, 749-775.

Izzo, C., Weiss, L., Shanahan, T., & Rodriguez-Brown, F. (2000). Parental self-efficacy and social support as predictors of parenting practices and children's socioemotional adjustment in Mexican immigrant families. *Journal of Prevention & Intervention in the Community*, 20(1-2), 197-213.

Jacoby, J., & Matell, M. S. (1971). Three-point Likert scales are good enough. *Journal of Marketing research*, 8, 495-500.

Jacobson, K. C., & Crockett, L. J. (2000). Parental monitoring and adolescent adjustment: An ecological perspective. *Journal of research on adolescence*, 10(1), 65-97.

Jang, S. J., & Smith, C. A. (1997). A test of reciprocal causal relationships among parental supervision, affective ties, and delinquency. *Journal of Research in Crime and Delinquency*, 34(3), 307-336.

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.

Janssen, H. J., Eichelsheim, V. I., Deković, M., & Bruinsma, G. J. (2016). 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, 169-194.

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.

Jessor, R. (1991). Risk behavior in adolescence: a psychosocial framework for understanding and action. *Journal of adolescent health*, 19, 597-605.

Johansson, T., and P. Lalander, 2012, Doing resistance – youth and changing theories of resistance: *Journal of Youth Studies*, 15, 1078-1088.

Jones, T. L., & Prinz, R. J. (2005). Potential roles of parental self-efficacy in parent and child adjustment: A review. *Clinical psychology review, 25*(3), 341-363.

Junger-Tas, J. (2012). Delinquent behaviour in 30 countries. In *The many faces of youth crime*, 69-93. Springer, New York, NY.

Kakihara, F., & Tilton-Weaver, L. (2009). Adolescents' interpretations of parental control: Differentiated by domain and types of control. *Child development, 80*(6), 1722-1738.

Kapetanovic, S. & Boson, K. (2019). *Differences in parents' and adolescents' reports on parental knowledge and longitudinal associations to adolescents' psychological problems*. Unpublished manuscript.

Keijsers, L. (2016). Parental monitoring and adolescent problem behaviors: How much do we really know?. *International Journal of Behavioral Development, 40*(3), 271-281.

Keijsers, L., Frijns, T., Branje, S. J., & Meeus, W. (2009). Developmental links of adolescent disclosure, parental solicitation, and control with delinquency: Moderation by parental support. *Developmental psychology, 45*(5), 1314.

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*(1), 88-113.

Keijsers, L., & van Roekel, E. (2018). Longitudinal methods in adolescent psychology: where could we go from here? And should we?. In *Reframing Adolescent Research* (pp. 70-91). Routledge.

Kendall, S., & Bloomfield, L. (2005). Developing and validating a tool to measure parenting self-efficacy. *Journal of Advanced Nursing, 51*, 174-181.

Kerns, K. A., Aspelmeier, J. E., Gentzler, A. L., & Grabill, C. M. (2001). Parent-child attachment and monitoring in middle childhood. *Journal of Family Psychology, 15*(1), 69-81.

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.

Kerr, M., Stattin, H., & Burk, W. J. (2010). A reinterpretation of parental monitoring in longitudinal perspective. *Journal of Research on Adolescence, 20*(1), 39-64.

Kerr, M., Stattin, H., & Pakalniskiene, V. (2008). Parents react to adolescent problem behaviors by worrying more and monitoring less. In M. Kerr, H. Stattin, & R.C.M.E. Engels (Eds.), *What can parents do*, (pp. 91-112). John Wiley and Sons, England.

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.

Kerr, M., Stattin, H., & Özdemiş, M. (2012). Perceived parenting style and adolescent adjustment: Revisiting directions of effects and the role of parental knowledge. *Developmental psychology, 48*(6), 1540-1553.

Kochanska, G., Kim, S., Boldt, L. J., & Yoon, J. E. (2013). Children's callous-unemotional traits moderate links between their positive relationships with parents at preschool age and externalizing behavior problems at early school age. *Journal of Child Psychology and Psychiatry, 54*(11), 1251-1260

Kovacs, M. (2003). *CDI children's depression inventory. Technical manual update*. North Tonawanda, NY: Multi-Health Systems Inc.

Kraus, L., Seitz, N. N., Piontek, D., Molinaro, S., Siciliano, V., Guttormsson, U., ... & Griffiths, P. (2018). 'Are The Times A-Changin'? Trends in adolescent substance use in Europe. *Addiction, 113*(7), 1317-1332.

Krosnick, J. A. (2018). *Questionnaire design*. In The Palgrave Handbook of Survey Research (pp. 439-455). Palgrave Macmillan, Cham.

Kuczynski, L., & De Mol, J. (2015). Dialectical Models of Socialization. In W. F. Overton, P. C. M. Molenaar, & R.M. Lerner (Eds.). *Handbook of Child Psychology and Developmental Science: Theory and Method*. (7th ed. P. 323-368). Hoboken, NJ: Wiley

Laible, D., Thompson, R. A., & Froimson, J. (2014). Early socialization: The influence of close relationships. In J.C. Grusec & P.D. Hastings (Eds.) *Handbook of socialization*, (pp. 35-59). The Guilford Press.

Laird, R. D., Marrero, M. D., & Sentse, M. (2003). Revisiting parental monitoring: Evidence that parental solicitation can be effective when needed most. *Journal of Youth and Adolescence*, 39(12), 1431-1441.

Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child development*, 62(5), 1049-1065.

Lanctôt, N., Cernkovich, S. A., & Giordano, P. C. (2007). Delinquent behavior, official delinquency, and gender: Consequences for adulthood functioning and well-being. *Criminology*, 45(1), 131-157.

Laursen, B., & Collins, W. A. (2009). Parent-child relationships during adolescence. In R.M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology*, Vol 2, (3rd ed. p. 3-42). New York, NY: Wiley.

Leaper, C. (2002). Parenting girls and boys. In M.H. Bornstein (Ed.) *Handbook of parenting*, Vol 1, (p. 189-225). New Jersey: Lawrence Erlbaum Associates.

Leaper, C., & Farkas, T. (2015). The socialization of gender during childhood and adolescence. In Grusec, J. E., & Hastings, P. D. (Eds.), *Handbook of socialization: Theory and research* (2nd ed., p. 541-565). New York: The Guilford Press.

Leijten, P., Gardner, F., Melendez-Torres, G.J., van Aar, J., Knerr, W., & Overbeek, G. (2019). Meta-Analyses: Key Parenting Program Components for Disruptive Child Behavior. *Journal of the American Academy of Child and Adolescent Psychiatry*, 2, 180-189.

Lerner, R.M. (2018). *Concepts and theories of human development* (4th Edition). New York: Routledge.

Lerner, R. M., & Galambos, N. L. (1998). Adolescent development: Challenges and opportunities for research, programs, and policies. *Annual review of psychology*, 49(1), 413-446.

Lerner, J. V., & Vicary, J. R. (1984). Difficult temperament and drug use: Analyses from the New York Longitudinal Study. *Journal of Drug Education*, 14(1), 1-8.

Lewis, C. C. (1981). The effects of parental firm control: A reinterpretation of the findings. *Psychological Bulletin*, 90, 547-563.

Lionetti, F., Keijsers, L., Dellagiulia, A., & Pastore, M. (2016). Evidence of factorial validity of parental knowledge, control and solicitation, and adolescent disclosure scales: When the ordered nature of Likert scales matters. *Frontiers in psychology*, 7, 941.

Loulis, S., & Kuczynski, L. (1997). Beyond one hand clapping: Seeing bidirectionality in parent-child relations. *Journal of Social and Personal Relationships*, 14(4), 441-461.

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen (Series Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (4th ed., p. 1 -101), New York: Wiley.

Marceau, K., Narusyte, J., Lichtenstein, P., Ganiban, J. M., Spotts, E. L., Reiss, D., & Neiderhiser, J. M. (2015). Parental knowledge is an environmental influence on adolescent externalizing. *Journal of Child Psychology and Psychiatry*, 56(2), 130-137.

Mason, W. A., & Windle, M. (2002). Reciprocal relations between adolescent substance use and delinquency: A longitudinal latent variable analysis. *Journal of Abnormal Psychology, 111*(1), 63-76.

McAdams, T. A., Salekin, R. T., Marti, C. N., Lester, W. S., & Barker, E. D. (2014). Co-occurrence of antisocial behavior and substance use: Testing for sex differences in the impact of older male friends, low parental knowledge and friends' delinquency. *Journal of adolescence, 37*(3), 247-256.

McGillicuddy-De Lisi, A. V., & Sigel, I. E. (2002). Parental beliefs. In M. H. Bornstein (Ed.), *Handbook of parenting*, Vol. 3. (p. 333-358). Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.

McKinney, C., & Renk, K. (2008). Differential parenting between mothers and fathers: Implications for late adolescents. *Journal of Family issues, 29*(6), 806-827.

McNeely, C., & Falci, C. (2004). School connectedness and the transition into and out of health-risk behavior among adolescents: A comparison of social belonging and teacher support. *Journal of school health, 74*(7), 284-292.

Meeus, W. (2016) Adolescent psychosocial development: A review of longitudinal models and research. *Developmental psychology, 52*(12), 1969-1993.

Metzler, C. W., Biglan, A., Ary, D. V., & Li, F. (1998). The stability and validity of early adolescents' reports of parenting constructs. *Journal of Family Psychology, 12*(4), 600-619.

Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*, 674-701.

Moffitt, T. E., & Caspi, A. (2001). Childhood predictors differentiate life-course persistent and adolescence-limited antisocial pathways among males and females. *Development and psychopathology, 13*(2), 355-375.

Moreira, P. A., Oliveira, J. T., Cloninger, K. M., Azevedo, C., Sousa, A., Castro, J., & Cloninger, C. R. (2012). The psychometrics and validity of the junior temperament and character inventory in Portuguese adolescents. *Comprehensive Psychiatry*, 53(8), 1227-1236.

Moss, H.B., Chung, C.M., Yi, H. (2014). Early adolescent patterns of alcohol, cigarettes, and marijuana polysubstance use and young adult substance use outcomes in a nationally representative sample. *Drug and Alcohol Dependence*, 136, 51-62.

McQueen, R. A., & Knussen, C. (2006). *Introduction to research methods and statistics in psychology*. Pearson education.

Nilsson, S., Buchholz, M., & Thunberg, G. (2012). Assessing children's anxiety using the modified short state-trait anxiety inventory and talking mats: A pilot study. *Nursing research and practice*, 2012, 1-8.

Nye, F. I. (1958). *Family relationships and delinquent behavior*. Oxford, England: John Wiley.

Näsman, E. (2012). Varför särskilt om Barn?. In E.B. Hansen & I. Frønes (Eds.), *Metoder og Perspektiver i barne- og ungdomsforskning*, (p. 33-57). Oslo

Olweus D. (1993). *Bullying in school: what we know and what we can do*. Oxford: Blackwell

Özdemir, M., & Stattin, H. (2011). Bullies, victims, and bully-victims: A longitudinal examination of the effects of bullying-victimization experiences on youth well-being. *Journal of Aggression, Conflict and Peace Research*, 3(2), 97-102.

Parker, J. S., & Benson, M. J. (2004). Parent-adolescent relations and adolescent functioning: self-esteem, substance abuse, and delinquency. *Adolescence*, 39, 155.

Patrick, M. E., & Schulenberg, J. E. (2014). Prevalence and predictors of adolescent alcohol use and binge drinking in the United States. *Alcohol Research: Current Reviews*, 35(2), 193.

Patterson, G. R. (1982). *Coercive family process* (Vol. 3). Eugene, OR: Castalia Publishing Company.

Public health agency of Sweden [Folkhälsomyndigheten] (2018). Skolbarns hälsovanor i Sverige 2017/18: grundrapport. Stockholm: Folkhälsomyndigheten.

Pulkkinen, L., Lyyra, A. L., & Kokko, K. (2009). Life success of males on nonoffender, adolescence-limited, persistent, and adult-onset antisocial pathways: Follow-up from age 8 to 42. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 35(2), 117-135.

Racz, S. J., & McMahon, R. J. (2011). The relationship between parental knowledge and monitoring and child and adolescent conduct problems: A 10-year update. *Clinical child and family psychology review*, 14(4), 377-398.

Rekker, R., Keijsers, L., Branje, S., Koot, H., & Meeus, W. (2017). The interplay of parental monitoring and socioeconomic status in predicting minor delinquency between and within adolescents. *Journal of Adolescence*, 59, 155-165.

Rhemtulla, M., Brosseau-Liard, P. E., & Savalei, V. (2012). When can categorical variables be treated as continuous? A comparison of robust continuous and categorical SEM estimation methods under suboptimal conditions. *Psychological Methods*, 17, 354-373.

Ring, J. (2013). *Brott bland ungdomar i årskurs nio. Resultat från Skolundersökningen om brott åren 1995–2011* [Crime and problem behaviors among year-nine youths in Sweden]. Stockholm, Sweden: Brottsförebygganderådet—BRÅ [The Swedish National Council for Crime Prevention].

Rote, W. M., & Smetana, J. G. (2016). Beliefs about parents' right to know: Domain differences and associations with change in concealment. *Journal of Research on Adolescence*, 26(2), 334-344.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55(1), 68.

Sameroff, A. (2010). A unified theory of development: A dialectic integration of nature and nurture. *Child development*, 81(1), 6-22.

Sanders, M. R., & Woolley, M. L. (2005). The relationship between maternal self-efficacy and parenting practices: Implications for parent training. *Child: care, health and development*, 31(1), 65-73.

Schulenberg, J. E., & Maggs, J. L. (2002). A developmental perspective on alcohol use and heavy drinking during adolescence and the transition to young adulthood. *Journal of Studies on Alcohol, Supplement*, 14, 54-70.

Schulenberg, J. E., Maslowsky, J., Patrick, M. E., Martz, M. (2016). Substance use in the context of adolescent development. In R. Zucker and S. Brown (Eds.) *The Oxford handbook of adolescent substance abuse*. Oxford university press.

Siegel, L.J., & Welsh, B.C. (2012). *Juvenile Delinquency: Theory, Practice, and Law*. Cengage Learning, Stamford, USA.

Silverberg, S.B., & Small, B. (1991). Parental monitoring, family structure and adolescent substance use. Paper presented at the meeting of the Society of Research in Child Development; Seattle, WA.

Skoog, T. (2008). *On the developmental significance of female pubertal timing*. Doctoral thesis. Örebro University

Skoog, T., & Stattin, H. (2014). Why and under which contextual conditions do early maturing girls develop problem behaviors? *Child Development Perspectives*, 8(3), 158-162

Slagt, M., Dubas, J. S., Deković, M., & van Aken, M. A. (2016). Differences in sensitivity to parenting depending on child temperament: A meta-analysis. *Psychological Bulletin*, *142*(10), 1068-1110.

Smetana, J. G. (1988). Adolescents' and parents' conceptions of parental authority. *Child development*, 321-335.

Smetana, J. G. (2008). "It's 10 o'clock: Do you know where your children are?" Recent advances in understanding parental monitoring and adolescents' information management. *Child Development Perspectives*, *2*(1), 19-25.

Smetana, J. G. (2017). Current research on parenting styles, dimensions, and beliefs. *Current opinion in psychology*, *15*, 19-25.

Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *Annual Review of Psychology*, *57*, 255-284.

Smetana, J. G., Villalobos, M., Tasopoulos-Chan, M., Gettman, D. C., & Campione-Barr, N. (2009). Early and middle adolescents' disclosure to parents about activities in different domains. *Journal of adolescence*, *32*(3), 693-713.

Statistics Sweden (2016). Statistical Database 2016. Retrieved from: <http://www.statistikdatabasen.scb.se/pxweb/en/ssd/?rxid=fdb8dba5-347a-4fec-b9dd-6c2485fe1e01>

Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child development*, *71*(4), 1072-1085.

Stattin, H., & Skoog, T. (2016). Pubertal timing and its developmental significance for mental health and adjustment. In H. Friedman (Ed.), *Encyclopedia of Mental Health*, (2nd, 386-397). Waltham, MA: Academic Press.

Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of research on adolescence*, *11*(1), 1-19.

Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental review*, 28(1), 78-106.

Steinberg, L. (2010). Dual systems model of adolescent risk-taking. *Developmental Psychobiology*, 52(3), 216–224.

Steinberg, L. (2014). *Age of opportunity: Lessons from the new science of adolescence*. Houghton Mifflin Harcourt.

Steinberg, L., & Cauffman, E. (1996). Maturity of judgment in adolescence: Psychosocial factors in adolescent decision making. *Law and Human Behavior*, 20(3), 249-272.

Steinberg, L., Lamborn, S. D., Darling, N., Mounts, N. S., & Dornbusch, S. M. (1994). Over-time changes in adjustment and competence among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child development*, 65(3), 754-770.

Steinberg, L., & Silk, J. S. (2002). Parenting adolescents. In M.H. Bornstein (Ed.) *Handbook of parenting*, Vol. 1, (pp. 103-133). Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.

Swedish Research Council [Vetenskapsrådet]. (2017). *God forskningssed*. Stockholm.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273-1296.

Thornberg, R. (2015). Distressed bullies, social positioning and odd victims: Young people's explanations of bullying. *Children & society*, 29(1), 15-25.

Tilton-Weaver, L. (2014). Adolescents' information management: Comparing ideas about why adolescents disclose to or keep secrets from their parents. *Journal of youth and adolescence*, 43(5), 803-813.

Tilton-Weaver, L., Kerr, M., Pakalniskeine, V., Tokic, A., Salihovic, S., & Stattin, H. (2010). Open up or close down: How do parental reactions affect youth information management?. *Journal of adolescence*, 33(2), 333-346.

Tilton-Weaver, L. C., & Marshall, S. K. (2008). Adolescents' agency in information management. *What can parents do*, 11-41.

Tokić Milaković, A., Glatz, T., & Pećnik, N. (2018). How do parents facilitate or inhibit adolescent disclosure? The role of adolescents' psychological needs satisfaction. *Journal of Social and Personal Relationships*, 35(8), 1118-1138.

Trost, K., Biesecker, G., Stattin, H., & Kerr, M. (2007). Not wanting parents' involvement: Sign of autonomy or sign of problems?. *European Journal of Developmental Psychology*, 4(3), 314-331.

Turner, R., Daneback, K., & Skårner, A. (2018). Assessing reciprocal association between drunkenness, drug use, and delinquency during adolescence: Separating within-and between-person Effects. *Drug and alcohol dependence*, 191, 286-293.

Ungdomsstyrelsen (2012). Utsatt? Unga, sex och Internet. Stockholm: Ungdomsstyrelsen.

Vargha, A., Torma, B., & Bergman, L. R. (2015). ROPstat: A general statistical package useful for conducting person-oriented analyses. *Journal of Person-Oriented Research*, 1(2), 87-97.

Vieno, A., Nation, M., Pastore, M., & Santinello, M. (2009). Parenting and antisocial behavior: A model of the relationship between adolescent self-disclosure, parental closeness, parental control, and adolescent antisocial behavior. *Developmental psychology*, 45(6), 1509.

Villalobos, M. S., Smetana, J. G., & Comer, J. (2015). Associations among solicitation, relationship quality, and adolescents' disclosure and secrecy with mothers and best friends. *Journal of Adolescence*, 43, 193-205.

Waizenhofer, R. N., Buchanan, C. M., & Jackson-Newsom, J. (2004). Mothers' and fathers' knowledge of adolescents' daily activities: its sources and its links with adolescent adjustment. *Journal of Family Psychology, 18*(2), 348-360.

Willoughby, T., & Hamza, C. A. (2011). A longitudinal examination of the bidirectional associations among perceived parenting behaviors, adolescent disclosure and problem behavior across the high school years. *Journal of Youth and Adolescence, 40*, 463-478.

Wennberg, P., & Bohman, M. (2002). Childhood temperament and adult alcohol habits: a prospective longitudinal study from age 4 to age 36. *Addictive behaviors, 27*(1), 63-74.

Williams, L. R., & Steinberg, L. (2011). Reciprocal relations between parenting and adjustment in a sample of juvenile offenders. *Child Development, 82*(2), 633-645.

Wolfson, A. R., Spaulding, N. L., Dandrow, C., & Baroni, E. M. (2007). Middle school start times: the importance of a good night's sleep for young adolescents. *Behavioral sleep medicine, 5*(3), 194-209.

Wothke, W. (2000). Longitudinal and multi-group modeling with missing data, in T.D. Little, K.U. Schnabel and J. Baumert [Eds.] *Modeling longitudinal and multilevel data: Practical issues, applied approaches, and specific examples*. Mahwah, NJ: Lawrence Erlbaum Associates

Yap, M. B., Cheong, T. W., Zaravinos-Tsakos, F., Lubman, D. I., & Jorm, A. F. (2017). Modifiable parenting factors associated with adolescent alcohol misuse: a systematic review and meta-analysis of longitudinal studies. *Addiction, 112*(7), 1142-1162.

Yoo, J. A. (2017). Developmental changes in the bidirectional relationships between parental monitoring and child delinquency. *Children and youth services review, 73*, 360-367.

Zeijl, J. V., Mesman, J., Stolk, M. N., Alink, L. R., Van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., . . . Koot, H. M. (2007). Differential susceptibility to discipline: The moderating effect of child temperament on the association between maternal discipline and early childhood externalizing problems. *Journal of Family Psychology*, 21, 626–636.

Zetterqvist, M. (2018). Skolelevers drogvanor 2018: CAN rapport 178. Stockholm

Appendix 1

Bivariate correlations among constructs used in Study II

	Parent-adolescent connectedness T1	Parental self-efficacy T1	Adolescent disclosure T1	Parental solicitation T1	Parental control T1	Parental knowledge T1	Adolescent delinquent behavior T1	Adolescent delinquent behavior T2	Adolescent substance use T1
Parental self-efficacy T1	.31**								
Adolescent disclosure T1	.56**	.33**							
Parental solicitation T1	.26**	.25**	.38**						
Parental control T1	.18*	.14**	.19**	.31**					
Parental knowledge T1	.35**	.37**	.57**	.44**	.29**				
Adolescent delinquent behavior T1	-.17*	-.01	-.23**	.02	.03	-.11*			
Adolescent delinquent behavior T2	.20**	-.07	-.31**	-.03	-.08	-.23**	.49**		
Adolescent substance use T1	-.06	-.08	-.20**	.01	-.05	-.20**	.40**	.53**	
Adolescent substance use T2	-.06	-.02	-.21**	.04	-.05	-.26**	.30**	.55**	.49**

Appendix 2

Bivariate correlations among constructs used in Study III

	Parental knowledge T1	Adolescent disclosure T1	Parental solicitation T1	Parental behavioral control T1	Parental knowledge T2	Adolescent disclosure T2	Parental solicitation T2	Parental behavioral control T2	Adolescent substance use T1
Adolescent disclosure T1	.63**								
Parental solicitation T1	.38**	.53**							
Parental behavioral control T1	.30**	.29**	.35**						
Parental knowledge T2	.54**	.47**	.28**	.20**					
Adolescent disclosure T2	.45**	.57**	.40**	.18**	.68**				
Parental solicitation T2	.29**	.41**	.54**	.24**	.39**	.48**			
Parental behavioral control T2	.20**	.19**	.20**	.45**	.28**	.22**	.25**		
Adolescent substance use T1	-.20**	-.15**	-.08**	-.10**	-.10**	-.10**	-.07*	-.08*	
Adolescent substance use T2	-.29**	-.30**	-.10**	-.12**	-.47**	-.40**	-.08**	-.20**	.23**

Note: ** p < .001; * p < .05

Mutual actions - Developmental links between aspects of the parent-adolescent relationship and adolescent risk behaviors

Adolescence is a critical time for the onset or intensification of engagement in risk behaviors, such as delinquency and alcohol use. Parents are often advised to supervise adolescents or set rules for behavior control in order to protect their adolescents from harm. But are such parenting strategies advantageous in preventing adolescents from engaging in risk behaviors? Little is known about what role adolescents play in the parent-adolescent relationship and their own psychosocial development? The overall aim of the dissertation was to investigate how parent- and adolescent-driven communication efforts occurring in the parent-adolescent relationship relate to risk behaviors in early to mid-adolescence.

Findings show that adolescent-driven communication efforts (i.e. disclosure about their everyday activities) play a prominent role in the parent-adolescent relationship and adolescent engagement in risk behaviors. Adolescent disclosure is linked to parental knowledge of an adolescent's whereabouts, parent-adolescent emotional connectedness, and decreases in adolescent risk behaviors over time. While parental behavioral control of adolescent whereabouts can indeed be protective of adolescent engagement in risk behaviors, parents' soliciting efforts are related to higher levels of engagement in delinquency and substance use. This is particularly true for boys and adolescents with detached and fearless temperament. However, when adolescents are willing to communicate, parents can elicit more disclosure from their adolescents through soliciting efforts.

This dissertation suggests that parents and adolescents both play important roles in parenting and parent-adolescent relationships. Parents can protect their adolescents from engagement in risk behaviors, especially when adolescents share information with their parents.



SABINA KAPETANOVIC is a licensed high school teacher and holds a Master of Science in Psychology. She works as a university lecturer in psychology. Sabina is a member of the research centre Child and Youth Studies at University West in Trollhättan and SALVE at Jönköping University. Sabina's research interests concern the area of developmental psychology, with special focus on adolescent risk behaviors and psychological health, personality, and adolescents' relationships with parents and peers.