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### At your own risk

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**CHAPTER**

**1**

Introduction

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Adolescence is a transitional phase between childhood and adulthood, a time when young individuals explore their own identities and attempt to find their place among others. Whereas children often look to parents and other significant adults for guidance, adolescents distance themselves from adults and look to each other when deciding in which direction to go and how to behave. During adolescence, peers become increasingly important to the social and emotional development of adolescents, and interpersonal relationships with age-mates have shown to be of fundamental importance to finding acceptance, support, and a place among peers (e.g., Baumeister & Leary, 1995; Buhrmester, 1990; Coleman, 1961; Juvonen, 2006; Newman, Lohman, & Newman, 2007; Rubin, Bukowski, & Parker, 2006).

Scholars have acknowledged that relationships between adolescents are not only bidirectional, for example between friends, but are also part of a broader social network (Gest, Graham-Bermann, & Hartup, 2001). Relationships between individuals are usually embedded within a network and adolescents are sensitive to the dynamics of that network. These peer groups form one of the most important settings where adolescents socialize and spend time with peers (Brown & Klute, 2003; Gifford-Smith & Brownell, 2003; Hallinan, 1980; Rasmussen & Salkind, 2008), and it is here where adolescents find social support, feel connected and accepted, and look most to each other to decide how they will or should behave (see also Brown, 1990; Hartup, 1993; Kwon & Lease, 2007).

Although peer groups have shown to be important for the social-emotional development of adolescents, they also form a context where adolescents can influence each other in less favorable ways, such as risk behaviors (e.g., Dishion, McCord, & Poulin, 1999; Gardner & Steinberg, 2005; Gardner & Steinberg, 2012). Peers in groups affect each other a great deal, and the beliefs, attitudes, and behavior of others affect how adolescents consider things and behave (Adler & Adler, 1998; Espelage, Green Jr., & Wasserman, 2007). Although this occurs for favorable aspects, such as prosocial behavior (Buhrmester, 1996; Rubin et al., 2006), adolescents tend to have their own views on what is favorable. What adults preferably see is not always normative for adolescents. Particularly behaviors that reflect a sense of (mature) status, but are not (yet) acceptable to be exhibited, are highly attractive for adolescents and they encourage each other to engage in these behaviors (Moffitt, 1993). Risk behaviors that peers display, such as aggression, delinquency, or substance use have shown to be one of the most important factors for adolescents' own risk behaviors (e.g., Dishion, Andrews, & Crosby, 1995; Henry, Tolan, & Gorman-Smith, 2001; Kerr, Van Zalk, & Stattin, 2012; Patterson, Dishion, & Yoerger, 2000; Svensson, Burk, Stattin, & Kerr, 2012; Weerman, 2011).

With research on peer relations steadily increasing, we continue to learn more about why adolescents have such a great impact on one another when it comes to each other's behaviors, in both positive and less positive ways. One methodological innovation that has enabled researchers to examine the impact of peers on each other's lives is SIENA (Ripley, Snijders, Boda, Vörös, & Preciado, 2014; Snijders, Van de Bunt, & Steglich, 2010). This method of longitudinal social network analysis uses a stochastic actor-based model to analyze relations between individuals (networks) along with the individual's characteristics, attitudes, or behaviors. The method can disentangle selection and influence, or socialization, processes. Peer selection refers to the tendency for individuals to associate with similar others (similarity attraction or homophily) (Byrne, 1971; Lazarsfeld & Merton, 1954), whereas influence refers to the tendency among adolescents to adjust their behavior according to the behavior of peers with whom they have a relationship (Cohen, 1977; Friedkin, 1998), resulting in their becoming more similar to each other over time.

Most researchers agree that selection and influence processes go hand in hand and can enlighten us to why adolescents tend to be similar to each other in their (risk) behaviors. Although methodological innovations have enabled us to disentangle selection from influence in risk behaviors, there is still much to study and we should delve deeper into the underlying processes of peer selection and influence in risk behaviors to understand what goes on in the adolescent realm. Researchers now have the opportunity to go beyond the examination of relations between adolescents and their behavior, and can examine more closely how and under which conditions youngsters become similar to those around them. This dissertation attempts to go into those questions and tries to increase our knowledge of how group dynamics and peer processes in adolescent peer groups relate to adolescents' involvement in risky behaviors.

## **Peer Processes in Adolescent Peer Groups**

To understand how and under which conditions adolescents are (not) influenced by peers in their risk behaviors, it is necessary to realize that risk behaviors do not occur in a vacuum. More often than not they are a part of the group process; adolescents engage in these behaviors together. For example, Lahey, Moffitt, and Caspi (2003) suggest that the main reason why peers are so influential for whether or not other adolescents will display acts of delinquency is that adolescents commit most such acts in the company of peers. The group creates the context of influence,

and that context, in which risky behaviors take place, plays an important role in adolescent influencing (see also Warr, 2002). Hence, if the group context makes it likely that adolescents are influenced, that context might also have an effect on whether or not adolescents are influenced by the risk behavior of their peers. This is because peer groups tend to create their own moral climate (e.g., Sherif & Sherif, 1964; Warr, 2002). Individuals in the group determine what is acceptable and desirable behavior, and what is not, in their own social context. Most likely due to group processes, risk behavior might proliferate in one group and not the other.

Thus, to gain a better understanding of how and under which conditions adolescent risk behaviors proliferate in some peer groups, but not others, we need to examine when adolescents are more likely to adopt risk behaviors and how they accomplish this. This dissertation argues that it is vital to study both group dynamics in adolescent peer groups and the way in which peer influence is accomplished to be able to understand why peer influence in risk behavior occurs for some adolescents, but not for others. Thus I will examine how certain group dynamics may make it more or less likely that adolescents display risk behaviors and are sensitive to peer influence in those risk behaviors, and the ways in which peer influence may occur. One aspect of group dynamics is that adolescents are motivated to behave in a certain way, but only when that behavior fits their sought-after goals. Adolescents are likely to engage in behaviors that will help them to find acceptance and belongingness among peers, which, depending on group features, might make (the influence of) some behaviors more or less likely than other behaviors. Chapter two examines how *features of peer groups* are related to adolescent behaviors, and chapter three examines how these features relate to the susceptibility to peer influence in risk behaviors. The way peer influence in risk behavior is assumed to work, namely looking at others to decide how to behave oneself, is essential for understanding sensitivity to peer influence. However, there may be other ways as well in which adolescents are influenced by their peers. By examining how adolescents may be influenced by others, I aim to understand how risk behaviors are likely to be adopted. Chapters four and five study how peer influence in risk behaviors may work and attempt to delve deeper into the *mechanisms of peer influence*.

The following sections of the introduction first give the theoretical background that forms the basis of the research questions answered in the empirical chapters. The introduction next discusses the Dutch educational system

and the data gathered for the purpose of the studies in the empirical chapters, and it concludes with a short outline of the rest of the dissertation.

### **Features of Peer Groups**

We know that adolescents look to one another to decide how to behave (e.g., Brown, 1990; Hartup, 1993; Kwon & Lease, 2007). However, how they actually do behave depends on what they want to achieve. According to goal-framing theory, individuals are motivated to behave in a way that helps them accomplish their goals, but refrain from activities that inhibit the achievement of goals (Lindenberg, 2001; 2006). When adolescents look to others how to behave, not everyone will behave in the same way, because adolescents act according to what is functional to achieving their goals. Although adolescents are generally influenced by their peers, individuals will likely differ in susceptibility to that influence, because what is important for one might not be important for someone else. Here the peer group is an important context that can help to explain these differences in susceptibility to peer influence.

One of the most important goals in adolescence is trying to fit in. Being accepted by peers and finding a sense of belonging among peers is of utmost importance in adolescence (e.g., Baumeister & Leary, 1995; Berndt, 1979; Coleman, 1961; Rubin et al., 2006). Acceptance and belongingness are vital for individuals and social relations with peers play a particularly significant role for social acceptance, support, and a sense of belonging in adolescence. According to social production functions theory, the attainment of status, affection, and behavioral conformation satisfies basic needs, and achieves social acceptance, and ultimately social wellbeing (Lindenberg, 1996; 2001; Ormel, Lindenberg, Steverink, & Verbrugge, 1999; Ormel, 2002). Adolescents can fulfill their need for status, affection, and the need to conform by behaving in a way that is attractive to others, by showing “correct” behavior or doing the “right” thing in the eyes of relevant others. These needs might account for the differences in susceptibility to risk behaviors of peers.

Having high social status is one way of being attractive for others. In the realm of adolescence, attaining high social status or becoming popular has proven its importance (Buhrmester, 1990; Cillessen & Rose, 2005; Jarvinen & Nicholls, 1996; Ojanen, Grönroos, & Salmivalli, 2005). In general, adolescents want to increase their social status among peers (Lindenberg, 1996). Adolescents with high social status on average not only have a certain power and influence over others, but also receive affection, especially from those who wish to have a high status themselves (Dijkstra, Cillessen, Lindenberg, & Veenstra, 2010; Merten, 1997;

Parkhurst & Hopmeyer, 1998). However, high social status implies that some individuals have low(er) social status. I argue that especially the dynamics between adolescents and their social status in peer groups makes some adolescents more or less likely to display behaviors associated with social status (chapter 2) and more susceptible to peer influence in risk behaviors than others (chapter 3).

Group dynamics might give rise to various behaviors that help adolescents accomplish their goal of becoming attractive (i.e. getting high social status). We already know that some peer groups have higher social status as a whole than other peer groups, and those differences between groups are accompanied by characteristics and behaviors of members of those groups, most prominently aggressive and prosocial behaviors (e.g., Adler & Adler, 1998; Closson, 2009; Garandeau, Ahn, & Rodkin, 2011). Both aggression and prosocial behavior appear to be more associated with higher social status than lower social status (e.g., Cillessen & Rose, 2005; Dijkstra, Lindenberg, Verhulst, Ormel, & Veenstra, 2009; Ellis & Zarbatany, 2007; Peters, Cillessen, Riksen-Walraven, & Haselager, 2010). However, there are also social status differences between adolescents in peer groups (e.g., Adler & Adler, 1998; Closson, 2009). Some peer groups will have more diversity in social status than others, making them more hierarchical, whereas peer groups with small differences in social status can be considered more egalitarian. Then the question is, what does this mean for the behavior of adolescents in those peer groups.

In chapter two I examine how differences between the social statuses of members in peer groups relate to differences in behaviors associated with social status (i.e., aggression and prosocial behavior). I argue that aggression and prosocial behavior should be considered in the light of their function to maintain social status. In some peer groups there might be more competition for status, and thus it will be more difficult to maintain one's social status (Adler & Adler, 1998; Eder, 1985). Adolescents might then be more inclined to display aggressive behaviors that reflect and emphasize a powerful and dominant position among peers (see also Cillessen & Mayeux, 2004; Dijkstra et al., 2009), and prosocial behavior might be less likely, because in a competitive context it can be costly to act prosocially (Clark & Mils, 1993) and behaving prosocially can be seen as a weakness (Ryan, Pintrich, & Midgley, 2001; Shim, Kiefer, & Wang, 2013). Thus, chapter two examines how social statuses in peer groups are related to the behavioral dynamics in those groups. It is expected that particularly in egalitarian groups, aggression is more likely and prosocial behavior is less likely due to more competition for status in those groups.



After our first examination of differences in social status of adolescents on behavioral dynamics, in chapter three I examine how those differences affect the behavior of individual members. In this chapter I actually delve deeper into how group features can have an effect on peer influence in adolescents' risky behaviors. Here, I argue that adolescents are not only inclined to display behaviors that are functional for maintaining social status, but they can also become attractive as a high status individual by displaying attractive behaviors, such as risk behaviors (Dijkstra et al., 2009). Especially those low in social status may be more likely to be influenced in those behaviors, not only because higher status individuals are more powerful and thus influence what lower status peers do, but also because adolescents can increase their own social status by imitating peers that already have high social status (Cialdini & Richardson, 1980; Dijkstra et al., 2010). Adolescents with higher social status tend to become role models to their peers and passively evoke imitation of their behavior among those peers, next to actively influencing others. Thus, chapter three gives insight into how social statuses in peer groups affect the susceptibility to peer influence in risk behaviors of the individual members in those groups, by testing whether peer influence is especially strong in adolescents with relatively low social status compared to adolescents with relatively high social status in the peer group.

Furthermore, examining features of peer groups requires me to think carefully about how those features are expressed in groups or in a social network. In chapter two I introduce a new measure that captures the *structure* of a hierarchy in a peer group. The most commonly used measure of hierarchy, based on variation (i.e., standard deviation) in adolescents' social status in peer groups, shows only that large differences indicate a hierarchy and small differences indicate an egalitarian peer group. Our measure identifies hierarchies on a continuous scale, so that it detects hierarchies ranging from a pyramid shape (i.e., relatively more group members with low status than high status), to an equal distribution of higher and lower social status, to structures indicating an inverted pyramid (i.e., relatively more group members having high status than low status). Our new measure captures the social status structure between individuals in peer groups better.

In chapter three I also examine how relations between adolescents in peer groups can affect how those adolescents influence one another. As mentioned before, another way to achieve social acceptance among peers is through behavioral confirmation (e.g., Lindenberg, 1996; Ormel et al., 1999). Individuals value close relations with peers and are motivated to confirm their membership of

the group (see also Baumeister & Leary, 1995; Reis, Collins, & Berscheid, 2000). They can achieve this by doing things that are considered “correct” in the eyes of oneself and relevant others, in this case peer group members. By displaying “correct” behavior, adolescents make it more likely that their behavior is what peer group members see as desirable, and increases their chances of being accepted by those members and belonging to the group (Coleman, 1961; Horne, 2001).

However, what is considered desirable can depend on the group. In most cases, socially competent adolescents learn to adopt social control and are reluctant to indulge in deviant or risky behavior, because it is generally frowned upon (Gottfredson & Hirschi, 1990; Hirschi, 2002). Individuals will demonstrate self-control when it comes to exhibiting antisocial behavior to be accepted by peers. However, a peer group might also approve of risk behaviors and consider this ‘the norm’. If this is the case, then individuals will more likely imitate that behavior (Akers, 1977; 2009; Sutherland, Cressey, & Luckenbill, 1992). This differentiation between when risk behaviors are favored and when they are not may be even greater when we consider the relations adolescents have in the peer group. For some groups, interactions between adolescents might be more intense than in other groups, resulting in greater group cohesion. If the peer group is more cohesive, contact between adolescents occurs more frequently and this can strengthen the transmission of norms, rules, and behavioral conformity (Horne, 2001). Studying the interactions between group members makes it possible to compare and check what behavior is considered desirable in the peer group. Thus, chapter three also looks at relations between adolescents in peer groups by examining how differences in cohesiveness relate to differences in the peer influence in risk behaviors, whereby it is expected that peer influence will be stronger for adolescents in more cohesive peer groups than adolescents in more loose-knit peer groups.

Also in chapter three I consider how features of peer groups might be expressed. Here I examine cohesion from an adolescent’s perspective, to say something about the behavior of individual group members. For this we asked respondents to identify their best friends, and peers in the group they socialize or ‘hang out’ with most often. This allows me to construct networks that include members of an adolescent’s intimate peer group. With these networks, we can focus on how social status and cohesion would relate to being influenced in risky behaviors by peers as seen from the perspective of the individual adolescent. Thus,

examining features of peer groups made me have to think about and create new, innovative, approaches to answer our research questions properly.

### **Mechanisms of Peer Influence**

While examining group dynamics and features that might enhance or inhibit peer influence, it is also important to examine how peer influence might work. Not only examining which conditions make peer influence more or less likely, but also taking a closer look at *how* adolescents may be influenced by peers in their risky behavior can help us understand why peer influence in risk behavior may occur for some adolescents, but not for others.

In terms of peer group dynamics, it becomes clear that adolescents are likely to behave in ways considered 'correct' or desirable to improve their chance of being accepted by peers and finding a place where they belong. Behaving correctly or desirably is, furthermore, important to the underlying mechanisms of peer influence. In most studies examining peer influence in risk behaviors, *mimicking observed behavior* of others is assumed to be the crucial underlying process (e.g., Burk, Kerr, & Stattin, 2008; De Cuyper, Weerman, & Ruiters, 2009; Haynie, Doogan, & Soller, 2014; Knecht, Snijders, Baerveldt, Steglich, & Raub, 2010; Weerman, 2011). Yet, underlying processes of peer influence have received relatively less attention in the framework that examines peer influence (SIENA). This dissertation, therefore, also attempts to examine possible mechanisms of peer influence in adolescent risk behaviors. Chapter four does this by examining whether adolescents *imitate* each other's behavior with regard to specific risky behavior or whether they mimic deviant behavior more generally. This chapter looks into the mechanism of peer influence, and peer selection, using a novel way of analyzing risk behavior.

Most studies on peer influence in risk behaviors treat behavior as a latent construct, consisting of several items, especially in the case of delinquency (e.g., Burk et al., 2008; Knecht et al., 2010; Svensson et al., 2012; Tilton-Weaver, Burk, Kerr, & Stattin, 2013; Weerman, 2011). However, when considering influence and selection processes, the underlying assumption is that these processes pertain to the behavior in general rather than to specific acts. This is surprising, as selection processes, for example, are often understood by using similarity attraction theory (Byrne, 1971), which would imply that due to engaging in the same behavior even stronger homophily would be likely. Similarly, most studies examining peer influence use differential association theory and social learning theory in explaining the driving mechanism of this influence (Burgess & Akers, 1966; Sutherland, Cressey, & Luckenbill, 1995), which assumes that adolescents learn from and

imitate peers by mimicking what they see. For this reason, chapter four aims to test influence and selection processes by examining these processes for specific same behaviors, in this case delinquent acts, rather than for delinquency in general, in a novel way, using delinquency items as a two-mode network in SIENA analyses. This means that we compare analyses of peer influence and selection in delinquency both as a scale and as a two-mode network. For the analyses of delinquency as a two-mode network, influence and selection would only be seen as such when it concerns the exact same delinquent acts. If adolescents associated with peers engaged in, for example, weapon carrying, and those adolescents began carrying weapons, it would be considered influence, whereas if they started to steal, this would not be considered as influence. By comparative analyses, I can examine whether adolescents select or are influenced by peers based on their overall delinquency or on whether they engage in the same delinquent acts.

The novelty of chapter four is not only found in its examination of the underlying mechanism of peer processes, but also in the methodological innovation needed to adequately examine the mechanism. Chapter four considers behavior as both a latent construct and a two-mode network. In the latter approach, behavioral acts or items are dummy-coded and treated as a network, meaning that respondents could either engage in a specific behavior (represented by a relation between respondent and the behavioral act) or not (represented by the absence of a relation between the respondent and the behavioral act). This means that when peers with whom one associates nominate a specific item and adolescents also nominate the same item over time, this is considered to be peer influence in a two-mode network. Peer selection is when adolescents nominate the same item and associate with each other at a later time point. By considering behavior as a network, we are actually able to explicitly test peer influence and selection in specific behavioral acts.

Chapter five concludes by examining another possible way by which adolescents might be influenced by their peers. This chapter argues that adolescents not only engage in risk behaviors, because of what they see peers do, but also because of the idea they have about how adolescents are expected to behave in a certain context. Although adolescents learn which behaviors are appropriate in a certain context through observation, imitation, and modeling (Bandura & McClelland, 1977), they are also inclined to create a perception of what others do by interacting and communicating with peers (Cialdini, Kallgren, & Reno, 1991). This way, adolescents familiarize themselves with the kind of behavior

considered desirable without having seen the behavior at all. It has also been shown that the relationship between the perception of peers' behavior and adolescents' own behavior is sometimes even stronger than the relationship between peer-reported behavior and adolescents' own behavior (Boman, Stogner, Miller, Griffin, & Krohn, 2011; Kandel, 1996; Prinstein & Wang, 2005; Weerman & Smeenk, 2005). Therefore, chapter five tests whether the perceptions adolescents have of the risk behaviors of their peers also influences their own engagement in risky behaviors, besides the direct influence of peers. To avoid tapping into the issue of influence in specific acts versus general risky behavior, I focus on substance use (smoking tobacco and drinking alcohol) in this chapter.

Chapter five also required a novel (methodological) approach that focuses on perceived behavior as relations between adolescents. In this chapter, perceived substance use consists of a network in which adolescents could nominate which of their close peers engaged in substance use. I examined how adolescents perceive each individual in the peer group to engage in substance use, and studied the combined effect of those perceptions on an adolescents' own substance use. No effects currently programmed in the SIENA framework test the effect of a dyadic covariate on a behavioral outcome variable. We found an innovative solution to this problem. We entered the network of perceptions of substance use in the analyses as a dependent network. Subsequently, we fixed several parameters so that this network is not modeled over time. Entering the variable as a dependent network and fixing changing parameters, enabled us to model the effect of a dyadic covariate on a behavioral outcome. Our novel methods in both chapters four and five helped us thoroughly examine the research questions and hypotheses at hand, and the formation of my conclusions in those chapters.

Taken together, chapters two to five aim to increase our understanding of relevant factors that might enhance or inhibit the occurrence of and susceptibility to peer influence in risk behaviors, and enlighten us on how adolescent peer influence presumably works, by examining this empirically. For this, data was collected especially for the studies in the empirical chapters. In the next sections I briefly discuss why Dutch secondary schools are so beneficial for the studies in this dissertation. Furthermore, I go into the details of the SNARE data collection, and also mention TRAILS, from which I used data for the study in chapter two.

## The Dutch Educational System

After elementary school, all children in the Netherlands attend secondary education, which is comparable to high school in the United States. By then, children are on average 12 years old, entering early adolescence. The Dutch educational system does not have middle schools or junior high schools, and the first grade of secondary education is seen as a transitional year that bridges elementary school to secondary school, also referred to as *brugklas* (bridge class). Especially here, old relationships dissolve and new relationships are formed. This is also one of the most important reasons why we collected data at this time.

There are highly beneficial, practical reasons for including Dutch secondary school students in our study. First, in the Dutch educational system, many students entering secondary school lose a number of former primary school relationships and create relationships with new peers in secondary school. Starting data collection in the first and second years of secondary school offers us the opportunity to study new networks as they form and follow them across time. It makes it possible to track with whom adolescents tend to associate and how they adapt their behavior to the behavior of other students.

Second, in Dutch schools, students spend a lot of time at school and classrooms play an important role in peer relations. In contrast to secondary education in the United States, Dutch classes do not change throughout the year. Students share classes with the same fellows for all their classes and do not change at random between different subjects. This results in hardly any change of classroom composition in the first (three) years of secondary school. For SIENA analyses this is highly beneficial. Although our main questions, from which I create networks of interest, are measured across classes and grades, analyses of items measured only within the class are also possible. Even then it is still possible to study influence and selection processes without losing much information on students across time points. All in all, our sample of first and second graders in Dutch secondary schools allows for different benefits, which may be harder to find in other school systems around the world.

## The SNARE Study

The SNARE study was designed specifically for the studies in this dissertation, with the exception of one in chapter two. SNARE stands for Social Network Analysis of Risk behavior in Early adolescence and includes data on risk behaviors, individual characteristics, and a range of social networks (see for example Dijkstra et al., 2015;

Franken et al., 2015). SNARE was originally planned as a study design with seven waves of data in two school years (funded by the NWO Youth & Family Program, project number 431-09-027, and VENI grant, project number 451-10-012), but has been expanded to incorporate a total of 12 regular waves, and two waves of pre-assessments, over the course of four years. Recent funding has opened up the possibility for collecting post-hoc genetic data allowing for a whole new range of future empirical studies (see also NWO-middelgroot MaGW, project number 480-13-005). This rich dataset on the social development of early adolescents will continue to be of great importance to future research.

With a specific focus on adolescents' involvement in risk behavior, SNARE has proven particularly important for this dissertation. We began preparing data collection in 2010 and 2011, and approached schools and the first students in 2011. Our desire was to include students from an entire school, rather than from random classes across the country, to be able to map out more or less complete networks of adolescents. We found two secondary schools willing to participate in the SNARE study: one in the middle and one in the north of the Netherlands. Subsequently, all first- and second-year secondary school students from these schools were approached for the first enrollment in SNARE (2011-2012). The next year (2012-2013) all new first year students were again approached for participation in the study, resulting in two participating cohorts. In total, almost 1,800 students participated in SNARE, filled in a pre-assessment in September of the first year of participation, and completed regular annual measurements in October, December, and April. This data collection concluded only recently, in April 2015, after a very successful collaboration with the participating schools, and their students.

In SNARE, we used the same questionnaires throughout the study, thus we could compare responses from each time point. Another great benefit of our data is that we included nominations across classes and grades for the most important network items, such as friendship or group membership, which allowed us to map out the social networks of adolescents even better.

Besides SNARE, the basis of the studies dealt with in chapters three to five, chapter two uses data from another large longitudinal data collection called the Dutch Tracking Adolescents' Individual Lives Survey (TRAILS; De Winter et al., 2005; Oldehinkel et al., 2015). Conducted in the north of the Netherlands, TRAILS is a prospective cohort study following respondents from preadolescence into early adulthood and was designed to chart and explain the development of mental health and social development. Data collection began in 2001/2002 on the birth cohorts

1990/1991 when respondents were approximately 11 years old. The data used in chapter two is a peer-nominations subsample collected together with the second wave of the study when respondents and classmates were on average 14 years old.

### **This Dissertation**

This dissertation attempts to go beyond the examination of relations between adolescents and their behavior, and wishes to examine more closely how and under which conditions adolescents become similar to each other in their behaviors by delving into group dynamics and peer processes in adolescent peer groups and their relation to adolescents' engagement in risk behaviors. In doing so, I hope to advance knowledge of adolescent influence processes, not only with regard to risk behaviors, but also more generally. The outline of the empirical chapters (see Table 1.1) gives an overview of the topics this dissertation addresses. The dissertation concludes with a general discussion and conclusions drawn from the results of the empirical chapters. I discuss the benefits and considerations of using SIENA, implications for the future, and future endeavors that could result from this dissertation.



**Table 1.1.** Overview of Empirical Chapters (2-5)

Chapter	Main Research Questions	Hypotheses	Data	Sample
2	How does the relationship between individual social status and aggression and prosocial behavior depend on the internal status hierarchy in peer groups?	There is a stronger relationship between individual social status ...: ... and aggression in more egalitarian peer groups and when the peer group status structure reflects an inverted-pyramid structure (H1). ... and prosocial behavior in more hierarchical peer groups and when the peer group status structure reflects a pyramid structure (H2).	TRAILS	N = 2,674 M <sub>age</sub> = 14 years
3	How do features of (individuals in) peer groups relate to peer influence in delinquency?	Susceptibility to peer influence in delinquency is especially strong for adolescents with relatively low social status compared to adolescents with relatively high social status in the peer group (H1). Adolescents are more susceptible to peer influence in delinquency in more cohesive peer groups than in more loose-knit peer groups (H2).	SNARE	N = 1,309 M <sub>age</sub> = 13 years
4	Do selection and influence processes in delinquency pertain to delinquency in general or specific delinquent acts?	Adolescents select peers who engage in the same delinquent acts (H1). Adolescents are influenced by peers, with whom they associate, in the same delinquent acts (H2).	SNARE	N = 1,309 M <sub>age</sub> = 13 years
5	Are adolescents directly influenced by observing substance use by their peers or indirectly by their perception of their peers' substance use?	Adolescents are likely to be influenced by their peers' substance use, but this influence is mediated by the perception adolescents have about the tobacco and alcohol use of their peers.	SNARE	N = 1,309 M <sub>age</sub> = 13 years