

Development of Adolescent Relationships



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Development of Adolescent Relationships

Ontwikkeling van relaties van adolescenten

(met een samenvatting in het Nederlands)

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Irene Hester Annelein de Goede

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Promotor: Prof. dr. W. H. J. Meeus

Co-promotor: Dr. S. J. T. Branje

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CHAPTER 1

Introduction

1 Introduction

Close relationships with parents and peers undergo important changes throughout adolescence (Collins, 1995; Laursen & Bukowski, 1997). Major developmental tasks regarding adolescent relationships are, firstly, to individuate from parents while maintaining connected (Allen, Hauser, Bell, & O'Connor, 1994; Bloss, 1967; Grotevant & Cooper, 1985) and, secondly, to establish intimate and interdependent relationships with friends and later also with romantic partners (Bouchey & Furman, 2003; Erikson, 1968; Sullivan, 1953). These relationship changes take place in a context of cognitive, physical, and psychosocial development (Collins & Repinski, 1994) which enables adolescents to become more stable and mature, both as a person and as a relationship partner (Lerner, 1985; Moore & Boldero, 1991).

The general aim of this dissertation is to investigate development of close relationships during adolescence. Development can be defined as “an ongoing series of interactions between a changing organism and a changing environment” (Laursen & Bukowski, 1997, p. 763). Close relationships are often defined as connections between two persons with “strong, frequent, and diverse interdependence that lasts over a considerable period of time” (Kelley et al., 1983, p. 38). In this dissertation, the focus is on adolescent relationships with mothers, fathers, friends, and romantic partners. Studying both parent-adolescent relationships and peer relationships at the same time, as well as interrelations between these types of relationships, allows for a better understanding of the processes taking place in relationships during adolescence (Collins & Repinsky, 1994). Four different empirical studies in this dissertation address developmental changes and dynamics in adolescent relationships from age 12 to 20. More specifically, we focus on developmental changes in parent-adolescent relationship quality, developmental changes in adolescent friendship quality, linkages over time between parent-adolescent relationships and adolescent friendships, and linkages between romantic relationship commitment and development of adolescent commitment to parents and friends.

1.1 The main themes of this dissertation

1.1.1 Operationalization of relationship quality

Close relationships can be described in terms of different relationship dimensions. In the field of adolescent relationships, two linked hypotheses are that (1) parent-adolescent relationships are characterized by increasing distance, whereas adolescent friendships are characterized by decreasing distance, and that (2) adolescents increasingly focus on relationships outside the family (Collins & Repinsky, 1994). As a result, different types of constructs are used in adolescent

relationship research, that is, constructs on interpersonal distance versus interpersonal connections (Collins & Repinsky, 1994). In the current dissertation, the constructs of *support* and *commitment* were used as measures of interpersonal connectedness. Support concerns issues like companionship, intimacy, and affection. Commitment refers to the intention to maintain a relationship and feelings of attachment to this relationship. *Negative interaction*, or the intensity of conflict and antagonism, was used as a measure of interpersonal distance.

According to interdependence theories, the mutual influence in a dyad changes to maintain interdependence during adolescence (Collins & Repinsky, 1994). For example in parent-adolescent relationships, interdependency takes a different form towards late adolescence as a result of increasing independence and autonomy of the adolescents (Collins, Laursen, Mortensen, Luebker, & Ferreira, 1997; Collins & Repinsky, 1994; Parker & Gottman, 1989). At the same time, interdependencies in relationships with peers and romantic partners are supposed to become more salient (Collins & Repinsky, 1994). To capture the notion of interdependency, the construct of *power* was used in this dissertation. Power refers to the relative power and dominance within relationships.

1.1.2 Developmental changes and dynamics in parent-adolescent relationships

During adolescence, parent-adolescent relationships are thought to change due to adolescent development. In the development towards more autonomy and individuation (Blos, 1979; Grotevant & Cooper, 1986), discrepancies between adolescents' and parents' expectations about decision making and control could give rise to a decline of warmth and to increasing conflicts (Collins et al., 1997; Grotevant & Cooper, 1986). These conflicts are thought to stimulate realignment of parent-adolescent relationships towards more age-appropriate expectations as parents relinquish their power (Collins et al., 1997) and parent-adolescent relationships become more reciprocal and less conflictual (Furman & Buhrmester, 1992; Russell, Pettit, & Mize, 1998; Youniss & Smollar, 1985).

Studying concurrent and over-time associations between different relationship characteristics within the same type of relationships can provide information on dynamics within relationships. Regarding these possible linkages in parent-adolescent relationships, theoretical considerations suggest that the development of support, negative interaction, and power might be interlinked in the process towards more equal parent-child relationships during adolescence. According to the separation-individuation theory, parent-adolescent conflicts stimulate the dissolution of ties to parents (Blos, 1979; see also Zimmer-Gembeck & Collins, 2003). This perspective would thus imply that higher levels of conflict lead to a decrease in parental power and support and also that parental support would stay low during middle and late adolescence. According to the autonomy-relatedness perspective (Allen, Hauser, Bell, & O'Connor, 1994; Grotevant & Cooper, 1985), during early adolescence conflict initiated by adolescents may lead to adjustment of relationships as parents relinquish their power (Collins et al., 1997). This perspective therefore implies that

conflicts stimulate a decrease in parental power, but are not predictive of changes in parental support.

1.1.3 Developmental changes and dynamics in adolescent friendships

In contrast to the diminishing time adolescents spend with their parents, adolescents spend more and more time with their friends, which is argued to be a result of the growing importance of friendship intimacy for adolescents' well-being (Sullivan, 1953). Adolescent friendships become increasingly close and supportive (Furman & Buhrmester, 1992; Helsen, Vollebergh, & Meeus, 2000; Rubin, Bukowski, & Parker, 2006; Shulman, Laursen, Kalman, & Karpovsky, 1997) and adolescents increasingly focus on relationships with peers (Brown, 2004).

With respect to linkages in adolescent friendships, several theories describe independent parallel developments between friendship characteristics. For example, Selman (1980) theorized that adolescent friendships become more intimate and more equally balanced with respect to power. Furthermore, the social relational model (Laursen, 1996) addresses the balance of closeness and conflict in friendships, with closeness gaining in importance and conflict becoming increasingly minimized. There are not many longitudinal studies on these issues and it is not clear yet whether or not these independent parallel developments are related over time. In this dissertation, different relationship characteristics are studied longitudinally in order to see how developmental changes of different relationship characteristics are related over time.

1.1.4 Linkages between adolescent relationships with parents, friends, and partners

A focus on possible associations between the same relationship characteristic in different types of relationships can help to understand dynamics between adolescent relationships (Collins & Repinsky, 1994). Based on different theoretical perspectives, linkages are suggested between parent-adolescent relationships, adolescent friendships, and adolescent romantic relationships.

Regarding possible linkages between parent-adolescent relationships and adolescent friendships, several theories assume positive associations. Theories like attachment theory (Bowlby, 1969), social learning theory (Bandura, 1977), and the social interactional perspective (Burks & Parke, 1996) suggest that relationships with parents influence adolescent relationships with friends through mental representations, processes of modelling and imitation, or cognitive representations (Furman, Simon, Shaffer, & Bouchev, 2002; McDowell, Parke, & Spitzer, 2002). In contrast, a generalization principle could account for an influence from adolescent friendships to parent-adolescent relationships. The symmetrical character of friendships offers adolescents the first experiences with egalitarian relationships, which they could later start to use in other mature relationships (Graziano, 1984; Laursen & Bukowski, 1997). In parent-adolescent relationships, the egalitarian and symmetrical style will become more salient during adolescence. In this manner, egalitarian relationship skills as learned in friendships could generalize to parent-

adolescent relationships.

The same principles could account for associations between parent-adolescent relationships and romantic relationships and between adolescent friendships and romantic relationships. Parent-adolescent relationships could influence relationships with romantic partners in the same way as they could influence relationships with friends, that is, through mental representations, processes of modelling and imitation, or cognitive representations (Bandura, 1977; Furman, Simon, Shaffer, & Bouchey, 2002; Hazan & Shaver, 1987; McDowell, Parke, & Spitzer, 2002). In addition, a generalization from skills learned in friendships to romantic relationships is probable (Bouchey & Furman, 2003; Graziano, 1984; Laursen & Bukowski, 1997; Meeus, Branje, van der Valk, & de Wied, 2007), since the specific characteristics of symmetrical relationships with friends resemble those of romantic relationships (Furman, 1999; Furman et al., 2002; Furman & Wehner, 1994; Scharf & Mayselless, 2001).

Relationships change during adolescence (Bouchey & Furman, 2003; Furman & Buhrmester, 1992) and it is therefore likely that associations between different types of relationships also change over time. Regarding influences from parent-adolescent relationships to adolescent friendships, it might be argued that the influence of parent-adolescent relationships on adolescent friendships diminishes as adolescents grow older, since parent-adolescent relationships become more equitable over time (McGue, Elkins, Walden, & Iacono, 2005; Russell, Pettit, & Mize, 1998) and adolescents become increasingly autonomous (Blos, 1979; Grotevant & Cooper, 1986). Regarding influences from adolescent friendships to parent-adolescent relationships, it is possible that associations become stronger towards late adolescence, since friendships are supposed to become closer (Selman, 1981; Shulman, Laursen, Kalman, & Karpovsky, 1997) and are likely to become more influencing over time.

Regarding romantic relationships and parent-adolescent relationships, it is possible that associations between these relationships become stronger over time, since parent-adolescent relationships and adolescent romantic relationships become more similar towards late adolescence in that romantic relationships develop real attachment qualities in late adolescence (Nieder & Seiffge-Krenke, 2001). In contrast, it could be that linkages between romantic relationships and parent-adolescent relationships become less strong throughout adolescence, because adolescents become increasingly independent from their parents (Blos, 1979; Grotevant & Cooper, 1986) and parental influence might diminish as adolescents grow older. Regarding adolescent friendships and romantic relationships, it is possible that linkages between these relationships become stronger over time since in friendships, closeness and interdependence increase during adolescence (Selman, 1981; Shulman, Laursen, Kalman, & Karpovsky, 1997) and adolescent friendships are likely to become more salient and influencing over time.

To summarize, different theories provide suggestions about linkages between adolescent relationships with parents and friends. Disentangling these linkages could shed more light on the dynamics taking place in adolescence regarding close relationships.

1.2 Research questions

1.2.1 Development of parent-adolescent relationships

How do adolescent relationships with mothers and fathers develop regarding support, negative interaction, and power?

And how are developmental changes regarding support, negative interaction, and power associated over time within mother-adolescent and father-adolescent relationships?

The first study (Chapter 2) investigates how adolescent relationships with mothers and fathers develop over time. More specifically, using multivariate Latent Growth Curve Modeling in a multigroup design, we longitudinally examine how the mean levels of perceived parental support, perceived negative interaction with parents, and perceived parental power in relationships with mothers and fathers develop during early adolescence from age 12 to 15 and during middle adolescence from age 16 to 19, using four waves of data with one-year intervals. In addition, we investigate how the developmental changes of perceived parental support, perceived negative interaction with parents, and perceived parental power are associated over time within mother-adolescent and father-adolescent relationships. Finally, we explore gender differences in these developmental changes and in associations between these changes.

Based on theoretical notions and earlier cross-sectional research, we expect that parent-adolescent relationships will become more egalitarian over time and we hypothesize that support will decline from early to middle adolescence and will stabilize from middle to late adolescence. In addition, we expect negative interaction to be stable from early to middle adolescence and to decrease from middle to late adolescence, and we expect that parental power will be stable from early to middle adolescence and will decrease from middle to late adolescence. We expect that heightened levels of negative interaction with parents will stimulate change in parent-adolescent relationships. Based on the separation-individuation perspective, we expect a link between higher initial levels of negative interaction and decreases in perceived parental power and support. Based on the autonomy-relatedness perspective, we expect that higher initial levels of perceived negative interaction with parents are related to decreases in perceived parental power, but not in perceived parental support.

Since most studies on age-related changes in parent-adolescent relationships are based on cross-sectional data and have not examined associations between developmental changes in different relationship characteristics, this longitudinal study provides more clarity on the development of parent-adolescent relationships.

1.2.2 Development of adolescent friendships

How do adolescent friendships develop regarding support, negative interaction, and power?

And how are developmental changes regarding support, negative interaction, and power associated over time within adolescent friendships?

In the second study (Chapter 3) we investigate the development of adolescent friendships from the perspective of the adolescent. Using multigroup multivariate Latent Growth Curve Modeling in an accelerated design, we examine mean developmental changes of perceived support, perceived negative interaction, and perceived power in friendships as well as interindividual differences in these changes. Five annual measurements of two age groups are combined using an accelerated design, allowing us to investigate an age range from 12 to 20. Furthermore, we will explore gender differences and associations between these three dimensions over time.

As for developmental changes, we expect adolescent friendships to become increasingly egalitarian and intimate. It is hypothesized that perceived support from friends will increase throughout adolescence, whereas negative interaction will decline from early to middle adolescence and will stabilize from middle to late adolescence. No explicit expectations are formulated regarding power, because of inconsistent evidence in the current literature.

Regarding linkages between different relationship characteristics, hypotheses are only formulated with respect to concurrent correlations. Linkages over time will be assessed in an exploratory manner. Regarding concurrent correlations, we expect no relation between support and negative interaction for boys and a negative relation between support and negative interaction for girls (Jenkins, Goodness, & Buhrmester, 2002). Also, we expect a positive relation between negative interaction and power for both boys and girls and a negative relation between support and relative power for girls but not for boys (Updegraff et al., 2004).

Most of the earlier findings on age-related changes in friendship perceptions are based on cross-sectional studies and little is known about developmental changes based on longitudinal data. This study therefore provides more clarity on the development of adolescent friendships by longitudinally examining developmental changes in adolescent friendships as well as the interplay between these changes.

1.2.3 Linkages between adolescent relationships with parents and friends

How are parent-adolescent relationships and adolescent friendships linked over time regarding support, negative interaction, and power?

In the third study (Chapter 4), we use path models in a multigroup design to simultaneously test expectations based on two contrasting perspectives on possible linkages over time between

parent-adolescent relationships and adolescent friendships, that is, the parent effect model and the friend effect model. Furthermore, we will investigate whether age effects occur with respect to associations between adolescents' perceptions of relationships with parents and adolescents' perceptions of friendships by assessing two age groups over five years, one from age 12 to 16 and one from age 16 to 20.

Based on several theoretical perspectives, like attachment theory (Bowlby, 1969; Furman, Simon, Shaffer, & Bouchey, 2002), social learning theory (Bandura, 1977), and the social interactional perspective (Burks & Parke, 1996; Parke & Buriel, 2006), we expect a parent effect model in which quality of parent-adolescent relationships influences quality of adolescents' relationships with best friends over time. Based on contrasting ideas, we expect a generalization principle, or friend effect model, in which perceived quality of adolescent friendships predicts perceived quality of parent-adolescent relationships over time (Graziano, 1984; Laursen & Bukowski, 1997). In addition, we expect that the possible influence of parent-adolescent relationships on adolescent friendships will diminish as adolescents grow older, whereas adolescent friendships will become more influencing on parent-adolescent relationships over time.

Earlier studies showed concurrent linkages between adolescent relationships with parents and friends, but longitudinal research is necessary to investigate how these relationship developments affect each other over time. The study in Chapter 4 contributes to our current understanding of influences between parent-adolescent relationships and adolescent friendships over time.

1.2.4 Linkages between adolescent relationships with parents, friends, and partners

How are adolescent relationships with parents and friends associated to adolescent romantic relationships with respect to commitment?

In the fourth study (Chapter 5), we use a multigroup multivariate Latent Growth Curve Model over five annual measurement waves to examine linkages over time between developmental changes in commitment to parents and friends from age 12 to 16 and age 16 to 20 on the one hand, and commitment towards romantic partners at ages 16 and 20 on the other hand. Furthermore, we will explore age and gender differences with respect to these associations.

Based on theoretical notions (e.g. attachment theory) and earlier research, we expect commitment to parents and friends to be positively related to romantic relationship commitment. In addition, we expect the link between commitment to parents and romantic relationship commitment to be stronger in late adolescence. Based on another line of thinking, we expect the link between commitment to parents and romantic relationship commitment to be stronger in early to middle adolescence, whereas we expect the link between commitment to friends and romantic relationship commitment to be stronger in middle to late adolescence.

Although several studies cross-sectionally investigated associations between romantic relationships and relationships with parents and friends, the study in Chapter 5 longitudinally

investigates associations between relationship quality in these relationships, thereby providing information on precursors of committed romantic relationships.

1.2.5 Overview of the empirical studies

To summarize the above, this dissertation aims to investigate development of adolescent relationships with mothers, fathers, and friends and linkages between adolescent relationships with parents, friends, and romantic partners. The studies in this dissertation are among the first studies to investigate adolescent relationships longitudinally from age 12 to 20 with a large sample of over 1300 adolescents.

The following main questions are answered: (1) How do adolescent relationships with mothers and fathers develop over time?, (2) How do adolescent relationships with best friends develop over time?, (3) How are parent-adolescent relationships and adolescent friendships linked to each other over time?, and (4) How are adolescent relationships with parents and friends related to adolescent romantic relationships? These research questions are summarized in Figure 1.1.

Study 1 investigates developmental changes and associations between these changes in adolescent relationships with mothers and fathers in two age groups, one from age 12 to 15 and one from age 16 to 19, combined in a multigroup design. Study 2 examines developmental changes and associations between these changes in two age groups, one from age 12 to 16 and one from age 16 to 20, which are combined in an accelerated design. Study 3 addresses the linkages between adolescent relationships with parents and friends in two age groups, one from age 12 to 16 and one from age 16 to 20, combined in a multigroup design. Study 4 concentrates on romantic relationship commitment at age 16 and 20 and its linkages with developmental changes in commitment to parents and friends from age 12 to 16 and from age 16 to 20, also combined in a multigroup design.

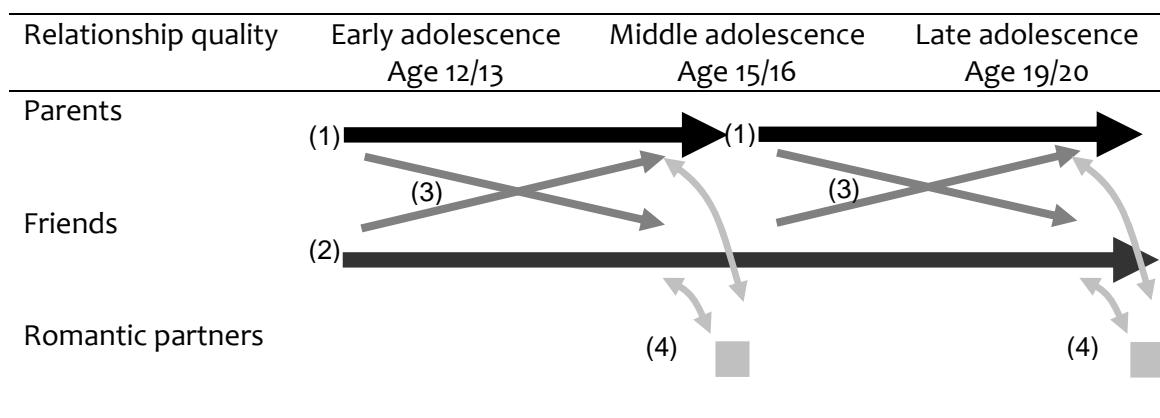


Figure 1.1 Overview of research questions in this dissertation

1.3 Method

1.3.1 The CONAMORE data set

For the studies in this dissertation, data were used from the longitudinal data set of the CONAMORE project (CONflict And Management Of Relationships; Meeus et al., 2004). This project includes a longitudinal adolescent sample of 1341 participants, which consists of two age cohorts: 951 early adolescents with a mean age of 12.4 at the first measurement wave and 390 middle adolescents with a mean age of 16.7 at the first measurement wave. The participating adolescents were recruited from various different high schools in the province of Utrecht, the Netherlands. Participants received an invitation letter, describing the research project and goals and explaining the possibility to decline from participation. Both parents and adolescents provided informed consent. More than 99% of the approached high school students decided to participate. The participants completed a battery of questionnaires at their own high school or at home, during five consecutive annual assessments. The questionnaires address adolescent relationships with parents and peers, adolescent functioning, and general activities of adolescents. Confidentiality of responses was guaranteed. Verbal and written instructions were offered. The adolescents received €10 as a reward for every wave they participated in.

1.3.2 Measures

Support. The short version of the support scale of the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985, 1992) was used to measure the amount of support from mothers, fathers, and best friends separately as perceived by adolescents. The support scale consists of twelve items, including items from different subscales like companionship, instrumental aid, intimacy, nurturance, affection, admiration, and reliable alliance. Answers were indicated on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Examples of items are: “Does your mother like or approve of the things you do?” and “How much does your best friend really care about you?”

Negative interaction (or conflict). The negative interaction scale of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992) was used to assess the intensity of negative interaction in adolescent relationships according to the perceptions of adolescents for relationships with their mothers, fathers, and best friends separately. Negative interaction was assessed by combining the conflict and antagonism subscales of the NRI, which is the original short form to assess negative interaction. The negative interaction scale consists of six items. The participants indicated their answers on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Examples of items are: “Do you and your father get on each other’s nerves?” and “How much do you and your best friend get upset with or mad at each other?”

Power. The power scale of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992) was used to measure the amount of power the adolescents attributed to their parents and friends, for relationships with their mothers, fathers, and best friends separately. Power was assessed by combining the relative power and the dominance subscales of the NRI. Since we formulated the power items and dominance items in the same way, they all measure the adolescents' perception about the extent in which the other person in the relationship is relatively powerful in the relationship. In this way, the items contrast dominance of the partner with either equality or dominance of the reporter. The power scale consists of six items. Answers were given based on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Low scores on the power scale show that adolescents do not see the person they are reporting about as more powerful, leaving open the possibility that the adolescent is more powerful than the other person as well as the possibility that the relationship is more egalitarian. High scores indicate that adolescents perceive the person they are reporting about as more powerful and feel their relationship is less equal. Examples of items are: "How often does your mother tell you what to do?" and "To what extent is your best friend the boss in your relationship?"

Commitment to parents and friends. Commitment to parents and friends was measured with a short version of the commitment scale of a Dutch adaptation of the Investment Model Scale (Rusbult, Martz, & Agnew, 1998) for relationships with mothers, fathers, and friends separately. The commitment scale measures the intention to maintain a relationship and to feel attached to this relationship and was assessed with four items. An example of a commitment item is: "I feel very attached to the relationship with my mother." Answers were indicated on a five-point Likert scale (ranging from 1 = *not correct at all* to 5 = *entirely correct*).

Commitment to romantic partners. Commitment in romantic relationships was measured with the commitment scale of the Utrecht-Management of Identity Commitments Scale (U-MICS; Meeus, 2001). The scale measures to which extent adolescents feel committed to the relationship with their romantic partner. The commitment scale consists of five items. Answers were given based on a five-point Likert scale (ranging from 1 = *entirely correct* to 5 = *not correct at all*) and were recoded to match the scale of commitment to parents and friends (1 = *not correct at all* to 5 = *entirely correct*). An example item is: "My partner gives me certainty in life." Of this instrument, only data from the fifth measurement wave were used to maximize the number of participants in the analyses.

1.4 Outline of this dissertation

After the present general introduction, the dissertation continues with four empirical chapters. Each chapter addresses one of the research questions as mentioned before (see Figure 1.1, Table 1.1, and § 1.3). Next, the last chapter (Chapter 6) gives an overview of the results from the empirical chapters and discusses their implications.

Table 1.1 Overview of the studies in this dissertation

Chapter	Relationship type	Waves	Variables	Measures	Analyses
2	Mother-adolescent & Father-adolescent	1 to 4	Support, negative interaction, & power	Network of Relationships Inventory (NRI)	Multigroup multi-variate latent growth curves
3	Friendships	1 to 5	Support, negative interaction, & power	Network of Relationships Inventory (NRI)	Multigroup multi-variate latent growth curves (accelerated design)
4	Parent-adolescent & Friendships	1 to 5	Support, negative interaction, & power	Network of Relationships Inventory (NRI)	Multigroup path analyses
5	Parent-adolescent, Friendships, & Romantic relationships	1 to 5 5 only	Commitment	Investment Model Scale & Utrecht-Management of Identity Commitments Scale (U-MICS)	Multigroup multi-variate latent growth curves

CHAPTER 2

Developmental changes in adolescents' perceptions of relationships with their parents¹

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2 Developmental changes in adolescents' perceptions of relationships with their parents

This 4-wave longitudinal study examines developmental changes in adolescents' perceptions of parent-adolescent relationships by assessing parental support, conflict with parents, and parental power. A total of 951 early adolescents (50.4% boys) and 390 middle adolescents (43.3% boys) participated. Univariate and multivariate growth curve analyses showed that support declined from early to middle adolescence for boys and girls and increased from middle to late adolescence for girls, while stabilizing for boys. Conflict was found to temporarily increase during middle adolescence. Parental power (relative power and dominance of parents) decreased from early to late adolescence. Results indicated that: (1) Parent-adolescent relationships become more egalitarian during adolescence, (2) parents perceived by adolescents as powerful are viewed as supportive, especially in early adolescence, and (3) perceived conflict with parents is related to but not an impetus for changes in parent-adolescent relationships towards more equality.

2.1 Introduction

Over the course of adolescence, many changes take place in parent-child relationships. Whereas adolescents spend less and less time with their family, they focus increasingly on peers and activities outside the family (Brown, 2004; Larson, Richards, Moneta, Holmbeck, & Duckett, 1996). Many theories, such as neo-psychoanalytic perspectives, evolutionary perspectives, and socio-cognitive perspectives, suggest that the increasing autonomy and individuation during adolescence lead to a temporary decrease in closeness, an increase in conflicts, and gradually more equal power (Collins & Laursen, 2004b; Youniss & Smollar, 1985).

Two theoretical perspectives are relevant when considering the role of conflict in this process towards increasing balance of power. According to the separation-individuation theory (Blos, 1967), adolescents develop autonomy and become independent of parents, with parent-child conflicts stimulating the dissolution of ties to parents (Blos, 1979; see also Zimmer-Gembeck & Collins, 2003). Furthermore, the autonomy-relatedness perspective theorizes that adolescents develop more autonomy (Cooper, Grotevant, & Condon, 1983; Grotevant & Cooper, 1986), which may create a temporary dip in parent-child connectedness, although connectedness to parents remains important (Silverberg, Tennenbaum, & Jacob, 1992). An adjusted version of the separation-individuation perspective recognizes that children remain connected to their parents

during the process of separation and individuation (Younniss & Smollar, 1985). Thus, both perspectives state that distance in relationships is needed to redefine relationships, although under conditions of relatedness.

According to both the separation-individuation perspective and the autonomy-relatedness perspective, autonomy development is thought to entail changes in conflict and power in parent-adolescent relationships. Increasing desire for autonomy and differences in opinions of parents and adolescents about the timing of autonomy are thought to give rise to conflicts in parent-adolescent relationships (Montemayor, 1983; Smetana, 1989). Conflicts are thought to help adolescents to become more autonomous (Grotevant & Cooper, 1986), and stimulate realignment of parent-adolescent relationships toward more age-appropriate expectations as parents relinquish their power (Collins, Laursen, Mortensen, Luebker, & Ferreira, 1997). As a result of this process, adolescents gain more power and parent-adolescent relationships become more egalitarian and reciprocal.

These considerations suggest that adolescents' perceptions of parent-adolescent relationships change over time and that different relationship characteristics are linked over time. However, most studies on age-related changes in parent-adolescent relationships are based on cross-sectional data and have not examined associations between developmental changes in different relationship characteristics. Longitudinal research is needed to give a more decisive answer regarding the development of parent-adolescent relationships (Ruspini, 1999).

This study provides more clarity on the development of parent-adolescent relationships by longitudinally examining both developmental changes in parent-adolescent relationships, as well as the interplay between these changes. The focus lies on the perceptions of adolescents regarding support, conflict, and power, which are key dimensions in many theories on development of parent-adolescent relationships. For example, attachment theory emphasizes support from parents in the form of shared activities, emotional ties, and care giving as a secure basis to explore the world outside the family and form new relationships (Collins & Laursen, 2004b). In addition, social relations models highlight interdependence, or the balance of power, in the form of mutual influences, reciprocity, and perceptions of equality as the main characteristic of close relationships (see Collins & Laursen, 2004b). The social relational perspective also recognizes that conflict is fundamental in close relationships, resulting from the need to integrate different objectives and expectations (Laursen & Collins, 1994). This is especially relevant during adolescence, when parents and children have to adjust their relationships due to changing circumstances (Collins, 1995). Because of the importance of support, conflict, and power in theories of adolescent development, we chose these dimensions to address in our study.

2.1.1 Development of support, conflict, and power

In this section we will discuss empirical evidence grouped separately for findings on support, conflict, power, and gender differences. Within each part, first cross-sectional studies and then longitudinal studies are discussed. Also, when applicable, a distinction has been made between

developments from early to middle adolescence and developments from middle to late adolescence. We will start by discussing previous studies on support.

Findings on age-related changes in perceived parental support are quite consistent. Cross-sectional studies have reported that parental support declines from early to middle adolescence (Furman & Buhrmester, 1992; Helsen, Vollebergh, & Meeus, 2000; Meeus, Iedema, Maassen, & Engels, 2005). In agreement with this, parental support, intimacy, and warmth, the latter two both aspects of support, were longitudinally found to decline from early to middle adolescence (Feinberg, McHale, Crouter, & Cumsille, 2003; Shanahan, McHale, Crouter, & Osgood, 2007; Wickrama, Lorenz, & Conger, 1997). Cross-sectional studies showed that parental support stabilizes during late adolescence (Furman & Buhrmester, 1992; Helsen et al., 2000; Meeus et al., 2005). This stabilization was longitudinally confirmed with respect to the development of warmth (Shanahan, McHale, Crouter, & Osgood, 2007). These findings suggest that support declines from early to middle adolescence and stabilizes thereafter.

When considering conflict, a cross-sectional study showed that early and middle adolescents reported higher levels of conflict with their parents than both pre- and late adolescents (Furman & Buhrmester, 1992). In addition, a meta-analysis showed that conflict affect increased from early to middle adolescence and stabilized during late adolescence in between the levels of the two former age periods (Laursen, Coy, & Collins, 1998). The increase in conflict during early adolescence was longitudinally confirmed (McGue, Elkins, Walden, Iacono, 2005). Overall, there seems to be consensus that conflict becomes more intense during early adolescence and less strong from middle to late adolescence. An explanation for increased conflict intensity during early adolescence can be found in biological changes linked with puberty (Steinberg, 1981). At the apex of pubertal development the intensity of conflict in parent-adolescent relationships peaks (Hill and Holmbeck, 1986; Laursen, Coy, & Collins, 1998), which is suggested to be the result of parallel physical and cognitive changes as well as parents disagreeing with their children that physical development is an adequate reason to gain more autonomy (Collins & Laursen, 2004b). It should be noted, however, that the social learning perspective suggests that interaction styles in prior parent-child relationships are also very predictive of the development of conflict with parents during adolescence (see Aquilino, 1997). In addition, it has recently been found that an increase in parent-adolescent conflict in two-or-more child families was related to the transition to adolescence of the firstborn child for both the first- and second-born children (Shanahan, McHale, Osgood, & Crouter, 2007).

Regarding power, a cross-sectional study showed that adolescents' perceived power in their relationships with parents was found to decline from pre-adolescence to early adolescence, to stabilize between early and middle adolescence, and to increase from middle to late adolescence (Furman & Buhrmester, 1992). Other cross-sectional studies showed that children's autonomy in relationships with their parents linearly increased from early to middle adolescence (Beyers & Goossens, 1999; Pinquart & Silbereisen, 2002) and that adolescent concession to the parent's viewpoint decreased from preadolescence to mid-adolescence (Smetana, Yau, & Hanson, 1991). These results suggest that the power of adolescents will increase during adolescence, and although

no empirical evidence is available, this might be accompanied by a decline in power of the parents during adolescence.

With respect to gender differences, empirical studies show mixed results. For support, Furman and Buhrmester (1992) found no gender differences for boys and girls regarding mean level during early adolescence, but from middle to late adolescence they found an increase in mother-daughter dyads and stabilization for all other parent-child dyads. Other studies did not examine or find gender differences for boys and girls in mean levels or development of support (e.g. Feinberg et al., 2003; Helsen et al., 2000; Meeus et al., 2005; Lempers & Clark-Lempers, 1992). With respect to gender differences for mothers and fathers, no support differences were found in pre- and early adolescence, whereas mothers were perceived as more supportive than fathers in middle and late adolescence (Furman & Buhrmester, 1992).

Mixed findings have been reported with regard to conflict and power. Conflict in parent-adolescent relationships has been found to be higher for girls than for boys (Laursen, 1995) and more conflicts occurred with mothers than with fathers (Laursen, 1995; Smetana, 1989). These gender differences can possibly be explained by the earlier pubertal development of girls, since parent-adolescent conflicts of earlier maturing adolescents are higher regarding both frequency and intensity (Collins & Laursen, 2004b). Also, both daughters and mothers are less avoidant regarding conflict (Laursen, 1995) and conflicts are mainly on everyday issues (Smetana, 1989) in which mothers are more involved (Collins & Laursen, 2004b; Laursen, 1995).

Furman and Buhrmester (1992) did not find gender differences for boys and girls or for mothers and fathers regarding conflict, but reported that boys felt more powerful in relationships with their parents compared to girls and late adolescents felt more powerful in relationships with their mothers compared to relationships with their fathers. In contrast to the higher perceived power of boys, girls were found to be more autonomous than boys in early adolescence (Beyers & Goossens, 1999; Piquart & Silbereisen, 2002), although this difference disappeared later in adolescence (Beyers & Goossens, 1999). An explanation could be that girls' earlier pubertal timing accelerates autonomy development (Beyers & Goossens, 1999). Even though there is inconsistency regarding the exact nature of the differences, these results suggest that gender differences are important to consider. We will therefore examine gender differences in the development of parent-adolescent relationships in an exploratory fashion.

2.1.2 From inequality to equality: An interlinked process

Not many studies have examined linkages between changes in support, conflict, and power during adolescence. Concurrent associations have been found between conflict and support: Adolescents with more conflict with their parents were found to perceive their parents as less supportive (Jenkins, Goodness, & Buhrmester, 2002). Similarly, a study among late adolescents found a significant negative correlation between parental social support and family conflict (Cutrona, Cole, Colangelo, Assouline, & Russell, 1994). Perceived parental support and perceived parental control were found to be positively correlated during early adolescence in a study with half of the

parents being alcoholic (Stice, Barrera, & Chassin, 1993). In line with this finding, positive correlations were found between closeness and parental authority in parent-adolescent relationships during early and middle adolescence (Laursen, Wilder, Noack, & Williams, 2000). Regarding conflict and control, a Chinese study showed that for 15-year-olds a higher level of conflicts with parents was associated with greater parental control (Lau & Cheung, 1987). Except for these findings, the current literature is remarkably devoid of concurrent and longitudinal associations between support, conflict, and power in parent-adolescent relationships.

Despite lack of empirical evidence regarding linkages in support, conflict, and power over time, theoretical considerations suggest that the development of support, conflict, and power might be interlinked in the process towards more equal parent-adolescent relationships in adolescence. According to the separation-individuation theory, parent-child conflicts stimulate the dissolution of ties to parents (Blos, 1979; see also Zimmer-Gembeck & Collins, 2003). This perspective would thus imply that higher levels of conflict lead to a decrease in parental power and support and also that parental support would stay low during middle and late adolescence. According to the autonomy-relatedness perspective (Allen, Hauser, Bell, & O'Connor, 1994; Grotevant & Cooper, 1985), during early adolescence, conflict initiated by adolescents may lead to adjustment of relationships as parents relinquish their power (Collins et al., 1997). This perspective therefore implies that conflicts stimulate a decrease in parental power, but are not predictive of changes in parental support.

2.1.3 Aims of the present study

We will longitudinally examine how the mean levels of perceived parental support, perceived conflict, and perceived parental power in relationships with mothers and fathers develop during early adolescence from age 12 to 15 and during middle adolescence from age 16 to 19. We expect that parent-adolescent relationships will become more egalitarian over time and hypothesize that support declines from early to middle adolescence and stabilizes from middle to late adolescence. In addition, we expect that conflict is stable from early to middle adolescence and decreases from middle to late adolescence, and we expect that parental power is stable from early to middle adolescence and decreases from middle to late adolescence.

We also will examine longitudinally how the developmental changes of perceived parental support, perceived conflict with parents, and perceived parental power are associated to each other over time within adolescent-mother and adolescent-father relationships. We expect that heightened levels of conflict with parents will stimulate change in parent-adolescent relationships. Based on the separation-individuation perspective, we expect a link between higher initial levels of conflict and decreases in perceived parental power and support. Based on the autonomy-relatedness perspective, we expect that higher initial levels of perceived conflict with parents are related to decreases in perceived parental power, but not in perceived parental support. We will explore gender differences in these developmental changes and associations between changes.

2.2 Method

2.2.1 Participants

Data for this study were collected as part of a longitudinal research project on CONflict And Management Of RELationships (CONAMORE; Meeus et al., 2004). Four waves were used with a one-year interval between each of the waves for all participants. The longitudinal sample consisted of a total of 1341 participants: 648 boys (48.3%) and 693 girls (51.7%). Two age groups were represented: 951 early adolescents (70.9%), who were on average 12.4 years of age ($SD = .58$) and 390 middle adolescents (29.1%), who were on average 16.7 years of age ($SD = .80$) during the first wave of assessment. Because both age groups were assessed during four measurement waves, a total age range from 12 to 15 and from 16 to 19 years was available. The early adolescent group consisted of 479 boys (50.4%) and 472 girls (49.6%). The middle adolescent group consisted of 169 boys (43.3%) and 221 girls (56.7%). Most participants were Dutch (85.5%). Others identified themselves as part of a non-Western ethnic group. Most participants lived with both parents (85.1 %). The participants were in junior high and high schools at time 1.

2.2.2 Procedure

The participating adolescents were recruited from various schools for secondary education in the province of Utrecht, the Netherlands. Before the study, both adolescents and their parents received written information describing the research project and goals and explaining the possibility to decline from participation. If the adolescent wished to participate, both the adolescent and his or her parents were required to provide written informed consent. More than 99% of the approached pupils decided to participate. The questionnaires were completed at the participants' own school, during annual assessments. Confidentiality of responses was guaranteed. Verbal and written instructions were offered. Participants received €10 as a reward for every wave they participated in. The study was approved of by the Board of the Institute for the Study of Education and Human Development of Utrecht University.

2.2.3 Measures

Support. The support scale measures the amount of support from parents as perceived by adolescents for the relationships with their mothers and fathers separately. Support was assessed using the short version of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992). The support scale consisted of twelve items. Answers were indicated on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Examples of items are: "Does your mother like or approve of the things you do?" and "How much does your mother

really care about you?”. An explorative factor analysis for three factors (support, conflict, and power) showed that all factor loadings were above .48 for support from mothers and above .41 for support from fathers, with no cross-loadings higher than .16 and .14 respectively. Stability correlations between subsequent waves were .52, .62, and .66 for support from mothers and .53, .63, and .64 for support from fathers. Internal consistencies were high with alphas of .88, .89, .90, and .91 over the waves for support from mothers, and alphas of .91, .91, .92, and .92 over the waves for support from fathers. The factor and construct validity of the NRI are adequate (Edens, Cavell, & Hughes, 1999).

Conflict (or negative interaction). The conflict scale assesses the intensity of conflict in relationships with their parents according to the perceptions of adolescents for the relationships with their mothers and fathers separately. The short version of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992) was used. The conflict scale consisted of six items. The participants indicated their answers on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Examples of items are: “Do you and your mother get on each other’s nerves?” and “How much do you and your mother get upset with or mad at each other?”. An explorative factor analysis showed that all factor loadings were above .68 for conflict with mothers and above .69 for conflict with fathers, with no cross-loadings higher than .06 and .09 correspondingly. Stability correlations between subsequent waves were .55, .56, and .57 for conflict with mothers and .56, .57, and .61 for conflict with fathers. Internal consistencies were high with alphas of .88, .89, .87, and .91 over the waves for conflict with mothers, and alphas of .90, .90, .90, and .92 over the waves for conflict with fathers.

Power. The power scale measures the amount of power the adolescents attributed to their parents, for the relationships with their mothers and fathers separately. Power was assessed by combining the relative power and the dominance subscales of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992). The power scale consisted of six items. Answers were given based on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Low scores on the power scale show that adolescents do not see their parents as more powerful, indicating that both adolescents and parents are equally powerful and have a high level of equality in their relationships. High scores indicate that adolescents perceive their parents as more powerful and feel their relationships are less equal. Examples of items are: “How often does your mother tell you what to do?” and “To what extent is your mother the boss in your relationship?”. An explorative factor analysis showed that all factor loadings were above .56 for power of mothers and above .59 for power of fathers, with no cross-loadings higher than .18 and .14 respectively. Stability correlations between subsequent waves were .49, .56, and .56 for power of mothers and .47, .56, and .60 for power of fathers. Internal consistencies were high with alphas of .83, .82, .85, and .87 over the waves for power of mothers, and alphas of .87, .87, .88, and .90 over the waves for power of fathers.

2.3 Results

2.3.1 Plan for analyses: Development

To examine mean developmental changes in parent-adolescent relationships, we used univariate latent growth curve models (Duncan, Duncan, Strycker, Li, & Alpert, 1999). Missing values were estimated in Amos with the Full Information Maximum Likelihood (FIML) approach for model estimation. We tested the growth curves for linear and curvilinear change for each of twelve different variables: each relationship dimension (support, conflict, power), within each age cohort (early and middle adolescence), and for mothers and fathers separately. For all variables, the linear model had a better fit than the curvilinear model. The chi-squares of the linear models were smaller than the chi-squares of the curvilinear models in all cases and with similar degrees of freedom, with differences in chi-squares ranging from 0.57 to 103.94 with a mean of 47.83. For the linear models, CFI values were .98 or higher and RMSEA values were .07 or lower, whereas for the curvilinear models, CFI values were .98 or lower and RMSEA values were .08 or higher.

Subsequently, we used multigroup analyses with four groups (gender x age) for each relationship dimension within each parent-adolescent relationship to examine differences between boys and girls and differences between early and middle adolescents. In the first model estimated, all four groups were constrained to be similar on every parameter, except for the random error components. Next, we stepwise released the intercept means, the slope means, the intercept and slope variances, and the covariances among intercepts and slopes. Using chi-square difference tests, we determined which parameter releases made a significant improvement to the model fit. The parameter releases that turned out to be a non-significant improvement to the model fit were again constrained to be similar in subsequent steps. Results and fit indices of the best fitting models from each of these series of analyses are displayed in Table 2.1. For the significant parameter releases, critical ratio comparisons were used to evaluate among which of the four groups the parameters differed significantly. Critical ratios are Z-scores that are used to test whether the difference between a pair of Pearson's r or Spearman's ρ correlations is significant. A critical ratio comparison shows a significant difference when the Z-score is above 1.96 or below -1.96. We report the results of the better fitting multigroup models, but chose to discuss differences between boys and girls and early and middle adolescents only when a difference suggested by the model comparisons was confirmed by the critical ratios. Due to the complexity of the models and our specific focus on developmental changes, analyses were conducted for mothers and fathers separately and, therefore, mother-father differences were not statistically tested.

2.3.2 Development of parental support

We found that early adolescents reported significantly more parental support than middle adolescents, except for early adolescent boys and middle adolescent girls in relationships with

their mothers, who reported a similar level of support (see Table 2.1). Critical ratio comparisons of intercept means showed that girls perceived their parents as significantly more supportive than boys, except for middle adolescent girls who perceived their fathers as equally supportive as middle adolescent boys did. Support from both parents declined significantly from early to middle adolescence for both boys and girls in a similar way. From middle to late adolescence, support significantly increased for girls and stabilized for boys. Critical ratio comparisons of slope means showed that this developmental difference between boys and girls was significant for paternal support, but not for maternal support. Furthermore, critical ratio comparisons showed that the support slopes of the early and middle adolescents differed significantly, except for boys in relationships with fathers (see Figures 2.1 and 2.2).

2.3.3 Development of conflict with parents

Critical ratio comparisons showed that the initial level of conflict with fathers and mothers was significantly higher for middle adolescents than for early adolescents. We found that conflict with mothers and fathers increased significantly from early to middle adolescence and declined significantly from middle to late adolescence for both boys and girls. Also, whereas the increase in conflict from early to middle adolescence was significantly faster for girls than for boys, the decline of conflict from middle to late adolescence was found to be similar for boys and girls (see Table 2.1 and Figures 2.3 and 2.4).

2.3.4 Development of parental power

It was found that early adolescents perceived their parents as more powerful than middle adolescents did, except for early adolescent girls and middle adolescent boys in relationships with their fathers, who perceived their fathers as equally powerful. Critical ratio comparisons of intercept means showed that boys in both age groups perceived their parents as more powerful than girls did (see Table 2.1).

From early to middle and from middle to late adolescence, the power of both parents declined significantly for both boys and girls. The decline was found to be significantly faster from early to middle adolescence than from middle to late adolescence (see Figures 2.5 and 2.6).

Table 2.1 Estimated means from the best fitting multigroup models

	Mothers						Fathers					
	Early		Middle		Girls		Early		Middle		Girls	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Support												
IC	M	3.51 ^b	3.70 ^c	3.36 ^a	3.52 ^b	3.39 ^b	3.49 ^c	3.25 ^a	3.23 ^a			
	σ^2	.21 ^a	.21 ^a	.28 ^b	.28 ^b	.26 ^a	.36 ^b	.26 ^a	.36 ^b			
SL	M	-.05 ^a	-.03 ^a	.01 ^b	.03 ^b	-.05 ^a	-.05 ^a	-.01 ^a	.06 ^b			
	σ^2	.02 ^a	.02 ^a	.02 ^b	.02 ^b	.03 ^a	.02 ^a	.03 ^a	.02 ^a			
Conflict												
IC	M	1.41 ^a	1.41 ^a	1.63 ^b	1.63 ^b	1.41 ^a	1.41 ^a	1.64 ^b	1.64 ^b			
	σ^2	.10 ^a	.12 ^a	.33 ^b	.36 ^b	.12 ^a	.15 ^a	.39 ^b	.47 ^b			
SL	M	.04 ^b	.07 ^c	-.08 ^a	-.07 ^a	.03 ^b	.07 ^c	-.06 ^a	-.08 ^a			
	σ^2	.02 ^a	.02 ^b	.01 ^{a,b}	.02 ^{a,b}	.01 ^a	.03 ^b	.04 ^b	.03 ^b			
Power												
IC	M	2.75 ^d	2.67 ^c	2.48 ^b	2.37 ^a	2.64 ^c	2.52 ^b	2.48 ^b	2.26 ^a			
	σ^2	.21 ^a	.21 ^a	.28 ^b	.28 ^b	.22 ^a	.28 ^b	.36 ^b	.29 ^b			
SL	M	-.08 ^b	-.08 ^b	-.11 ^a	-.11 ^a	-.05 ^b	-.05 ^b	-.09 ^a	-.09 ^a			
	σ^2	.02 ^a	.02 ^a	.01 ^a	.01 ^a	.02 ^{b,c}	.03 ^c	.01 ^a	.02 ^{a,b}			
Model fit indices												
	df		χ^2	NNFI	RMSEA	df	χ^2	NNFI	RMSEA			
Support	27		74.04 ^{**}	.96	.04	27	64.69 ^{**}	.97	.03			
Conflict	24		33.57	.99	.02	24	47.28 ^{**}	.98	.03			
Power	29		33.46	1.00	.01	25	38.34 [*]	.98	.02			

Note. Estimated parameters within each parent-adolescent relationship that do not share subscripts are significantly different with respect to gender at $p < .05$, two-tailed by critical ratios. Those parameters that are equal for boys and girls were constrained to be similar based on overall model testing with delta chi-squares.

IC = intercept, SL = slope

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

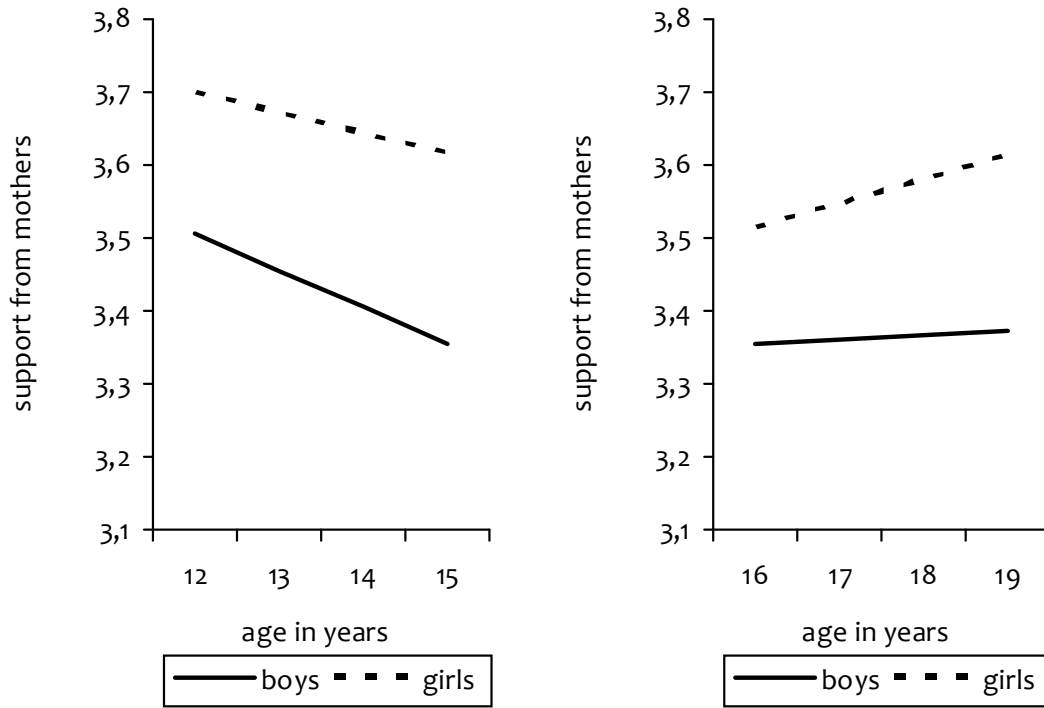


Figure 2.1 Support from mothers over time for boys and girls

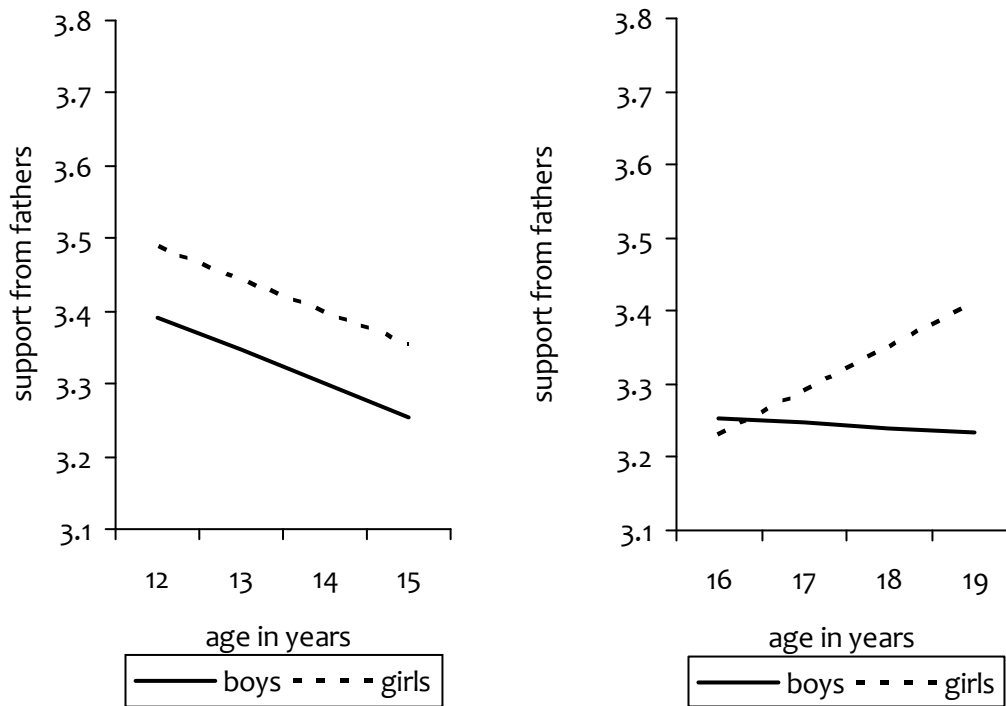


Figure 2.2 Support from fathers over time for boys and girls

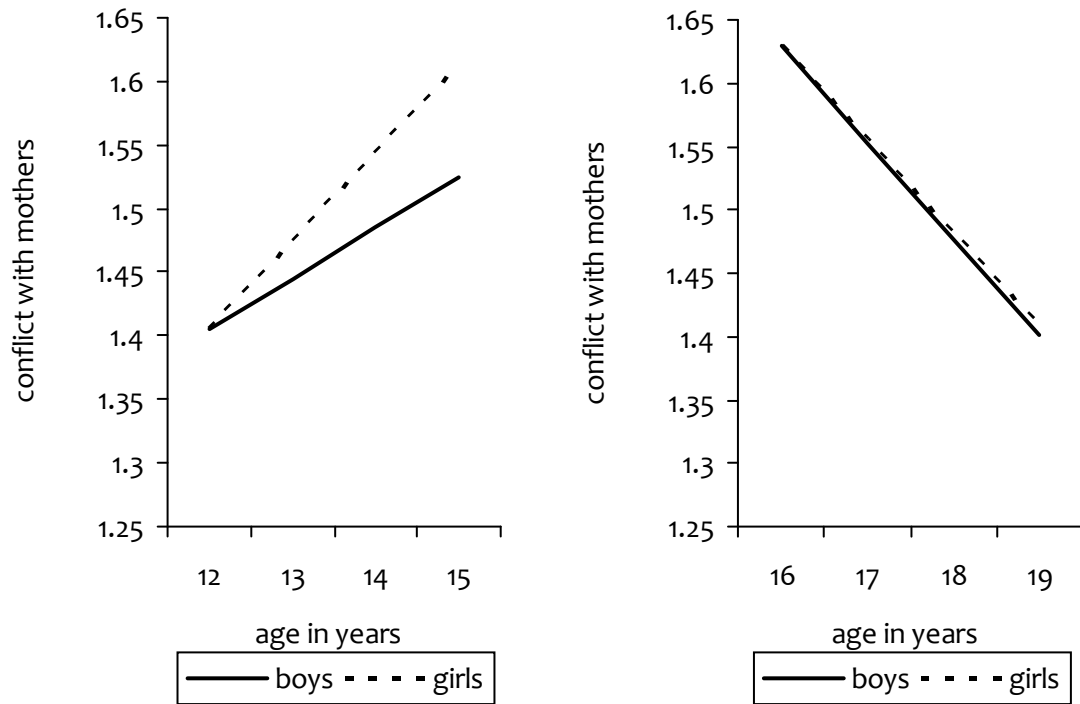


Figure 2.3 Conflict with mothers over time for boys and girls

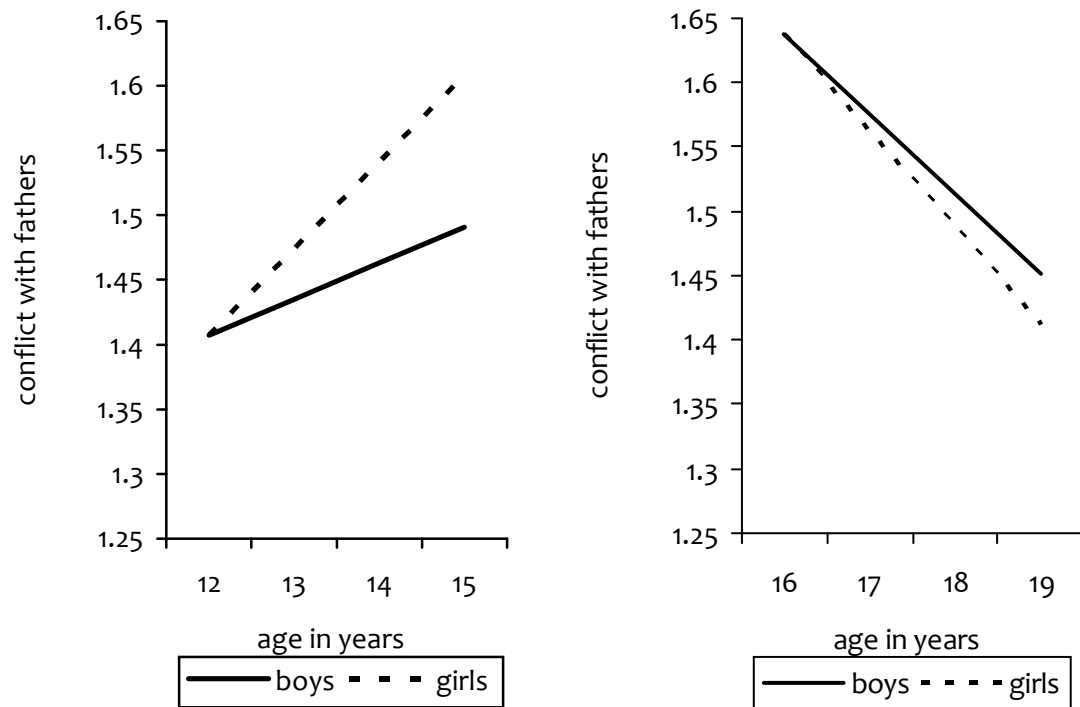


Figure 2.4 Conflict with fathers over time for boys and girls

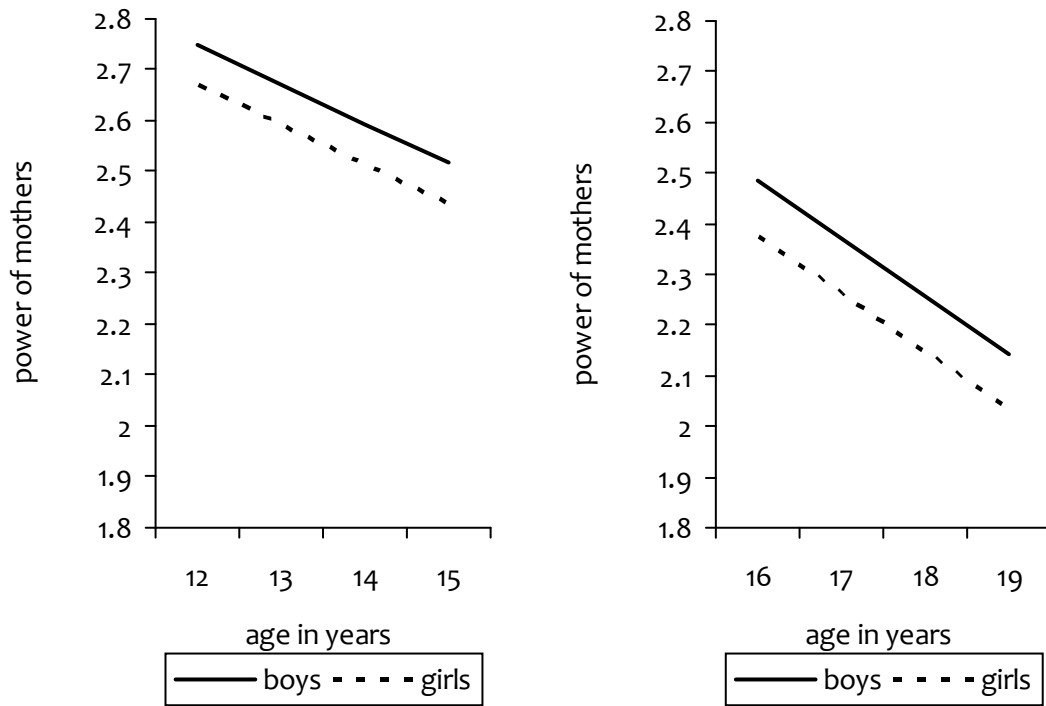


Figure 2.5 Development of maternal power for boys and girls

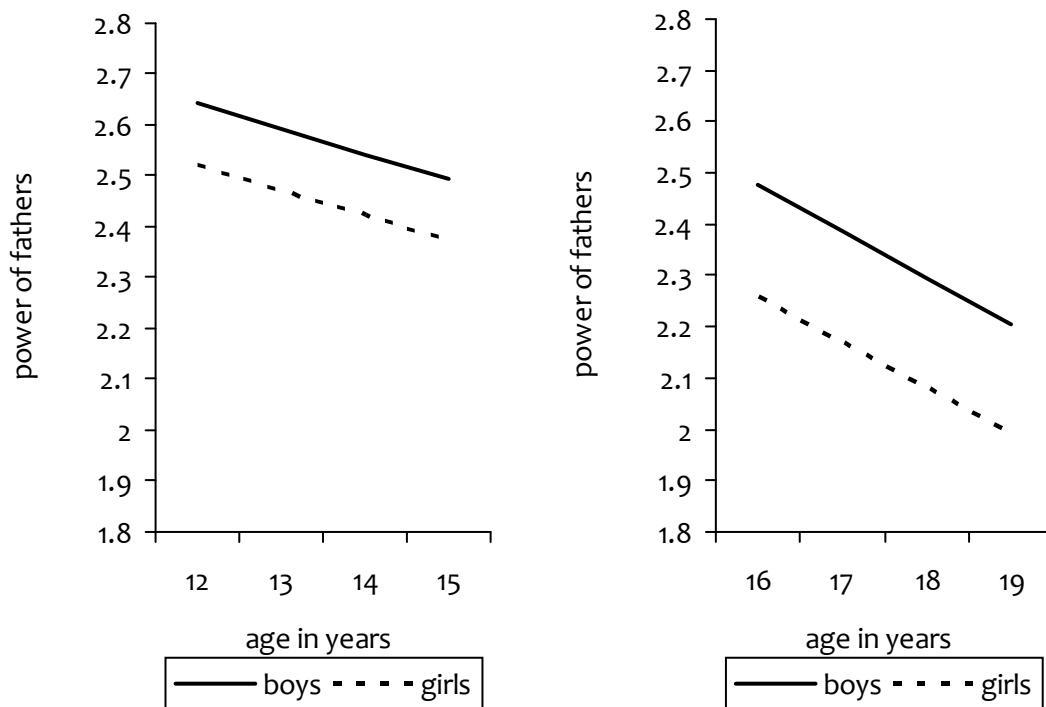


Figure 2.6 Development of paternal power for boys and girls

2.3.5 Plan for analyses: Linkages

To examine linkages between mean developmental changes in parent-adolescent relationships, we used multivariate latent growth curve models separately for early and middle adolescence. Intercept and slope means and variances were constrained to the estimated values from the univariate multigroup growth curve analyses. For middle to late adolescent boys, the paths to the slope of power in relationships with their fathers were not estimated, because of insignificant slope variance of power. We used four two-group analyses to examine gender differences for each age group for mothers and fathers separately. At first, boys and girls were constrained to be similar on every path. Next, we released the concurrent correlations, the intercept-slope paths within the same variable, the cross-paths, and the correlated changes one by one. Using comparisons of chi-squares and degrees of freedom, we determined which parameter releases significantly improved the model fit. Those parameters were all released in the final models. Fit indices and results of the best fitting models are displayed in Table 2.2. Again, we report the results of the better fitting multigroup models, but we chose to discuss differences between boys and girls only when a gender difference suggested by the model comparisons was confirmed by the critical ratios. Due to the complexity of the models and our specific focus on developmental linkages, analyses were conducted for mothers and fathers separately and, therefore, mother-father differences were not statistically tested.

2.3.6 Linkages between support and conflict in early adolescence

When considering the linkages between support and conflict, we found that the intercepts of support and conflict were significantly negatively correlated (see Figures 2.7 and 2.8). This means that a higher initial level of support from fathers and mothers was related to a lower initial level of conflict with fathers and mothers. In relationships with their fathers, a significant difference between the intercept-intercept correlation for boys and girls was found ($z = -2.34$). When considering the standardized correlations, this difference did not appear to be relevant ($-.47$ versus $-.49$, see Table 2.2). We also found significant negative correlated change between the slopes of support and conflict, which means that a greater decrease in support was related to a greater increase in conflict. Also, the intercept of conflict was positively related to the slope of support, indicating that a higher initial level of conflict was related to a smaller decrease of support. However, this last finding could also be due to regression to the mean, in that higher initial levels of conflict were also related to lower initial levels of support and lower initial levels of support cannot decrease that much anymore. An indication for regression to the mean is that both the intercepts of support and conflict were negatively related and the slopes between support and conflict were negatively related.

Table 2.2 Results of multigroup multivariate latent growth curve models

Relation type	Mothers				Fathers			
	Early		Middle		Early		Middle	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
IC-IC Correlations								
Support ↔ Conflict	.51**	-.48**	-.57 ^a **	-.66 ^a **	-.47 ^a **	-.49 ^b **	-.67**	-.51**
Support ↔ Power	.26**	.26**	.02	.02	.39 ^a **	.33 ^a **	.25 ^a **	.07 ^a
Conflict ↔ Power	.01	.01	.21**	.20**	.26 ^a **	.18 ^a **	.22 ^a *	.05 ^a
IC-SL Paths								
Support → Support	.03	.03	.00	.00	.16**	.19**	-.05	-.06
Conflict → Conflict	-.15**	-.13**	-.54**	-.47**	-.00	-.00	-.45**	-.52**
Power → Power	-.24**	-.24**	-.26**	-.26**	-.23**	-.24**	.X	-.08
IC-SL Cross-paths								
Support → Conflict	.01	.01	.13**	.11**	.06	.05	.15**	.18**
Support → Power	.05	.05	.14*	.14*	.05	.06	.X	.02
Conflict → Support	.25**	.27**	.35**	.36**	.33**	.38**	.24**	.28**
Conflict → Power	.23**	.24**	.09	.10	.22**	.22**	.X	.11
Power → Support	-.23**	-.23**	-.22*	-.22*	-.44**	-.50**	-.09	-.09
Power → Conflict	.09	.07	.15	.13	-.07	-.06	.07	.06
SL-SL Correlations								
Support ↔ Conflict	-.84**	-.67**	-.76 ^a **	-.88 ^a **	-.54 ^a **	-.60 ^a **	-.57**	-.67**
Support ↔ Power	.52 ^a **	.06 ^b **	-.04	-.04	.56**	.53**	.X	-.12
Conflict ↔ Power	.36**	.29**	.50**	.40**	.32 ^a **	.43 ^b **	.X	.51**
Fit indices								
CMIN/DF	4.10		2.38		5.00		2.75	
CFI	.88		.92		.86		.89	
RMSEA	.06		.06		.07		.07	

Note. For the released paths estimated means in the same column within each parent-adolescent relationship and within each age group that do not share subscripts are significantly different with respect to gender at $p < .05$, two-tailed by critical ratios. The parameters without subscript were found to be similar in overall model testing with delta chi-squares.

.X these paths were not included in the analyses, due to a non-significant variance of the slope of power, IC = intercept, SL = slope, * $p < .05$, ** $p < .01$.

2.3.7 Linkages between support and power in early adolescence

Intercepts of support and power were found to be significantly positively correlated (Figures 2.7 and 2.8), which shows that a higher initial level of support was related to a higher initial level of power. We also found a positive correlation between the slopes of support and power for all dyads, indicating that a greater decrease in support was related to a greater decrease in power, except for mother-daughter dyads (.56, .53, and .52 versus .06, see Table 2.2). Furthermore, the intercept of power was negatively related to the slope of support, indicating that a higher initial level of power was related to a faster decrease of support. This could, however, also be regression to the mean in that higher initial levels of power were also related to higher initial levels of support and higher initial levels of support can only move down considering there is much room to regress to the lower mean. Relatively to the average development in the sample, high scorers seem to move down faster. Again, an indicator for regression to the mean is that both the intercepts of support and power and the slopes of support and power were related in the same way, in this case both positively.

2.3.8 Linkages between conflict and power in early adolescence

The intercepts of conflict and power were found to be significantly positively correlated only in the relationships with fathers. This means that a higher initial level of conflict with fathers was related to a higher initial level of power of fathers. Moreover, the intercept of conflict was positively related to the slope of power, indicating that a higher initial level of conflict was related to a relatively smaller decrease of power. A positive correlation between the slopes of conflict and power showed that a greater increase in conflict was related to a smaller decrease in power. In relationships with their fathers, differences between slope-slope correlations of conflict and power were found for boys and girls, with a stronger correlation for girls compared to boys (see Table 2.2).

2.3.9 Linkages between support and conflict in middle adolescence

We found a negative intercept-intercept correlation between support and conflict for all adolescents in relationships with both fathers and mothers, indicating that a higher level of support was related to a lower level of conflict. Furthermore, we found a negative slope-slope correlation between support and conflict for both parent-adolescent relationships, which shows that a greater increase in support was related to a greater decrease in conflict.

We also found a positive intercept-slope correlation between support and conflict for relationships with both parents, indicating that a higher initial level of support was related to a relatively smaller decrease of conflict. This effect could, however, be due to regression to the

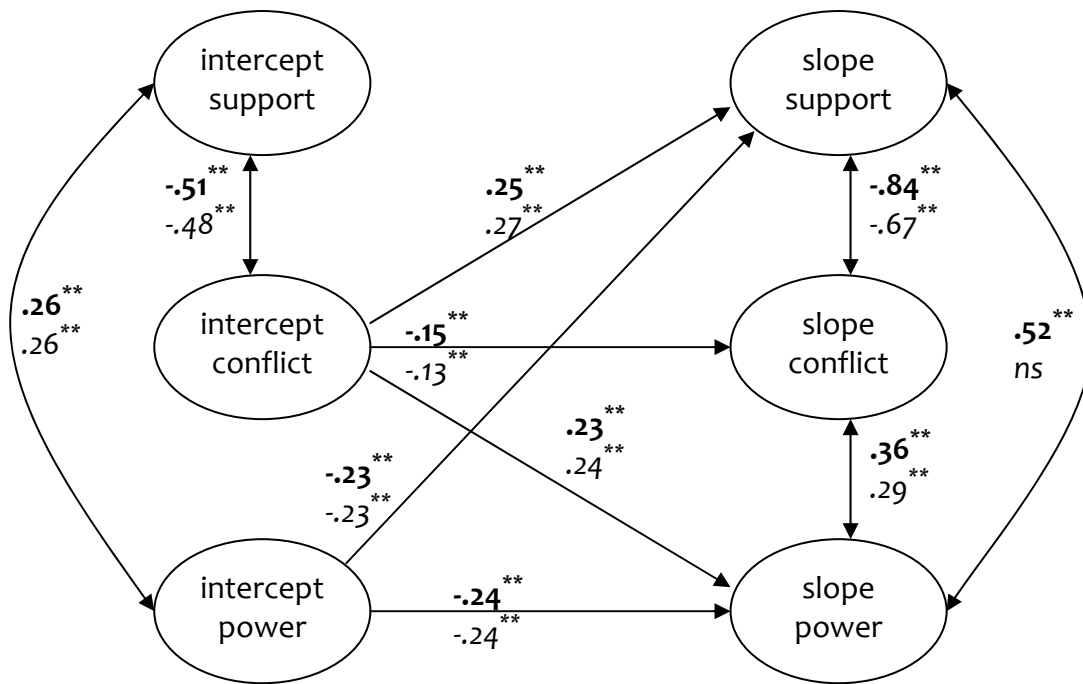


Figure 2.7 Linkages in adolescent-mother relationships from early to middle adolescence
 Note. Bold = boys, italic = girls. Only significant paths are drawn.

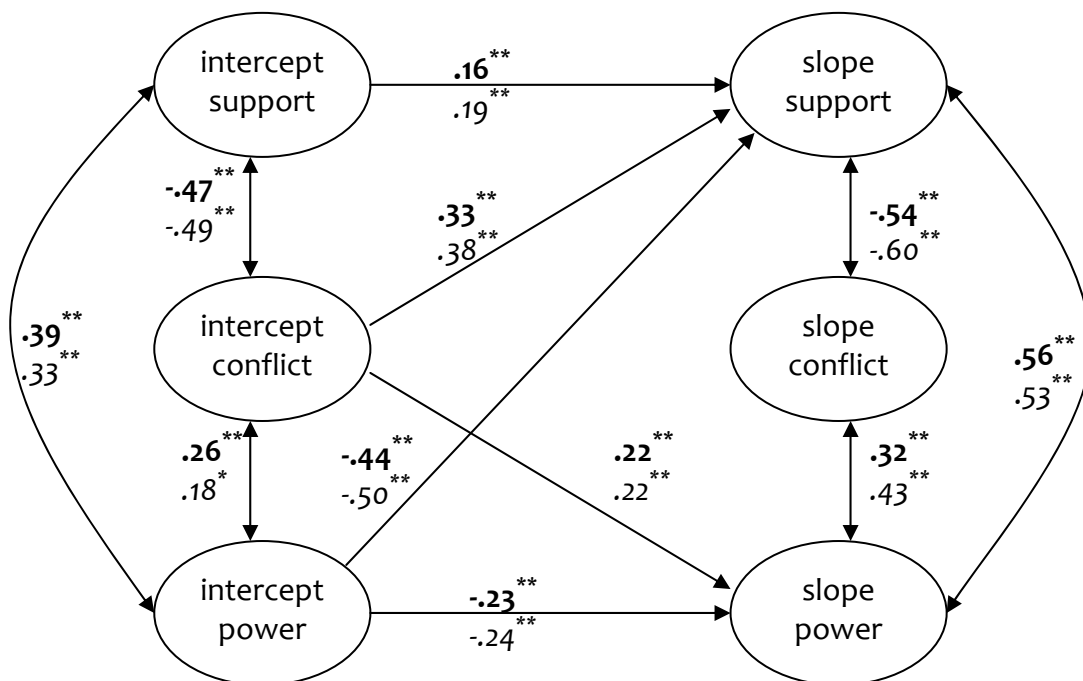


Figure 2.8 Linkages in adolescent-father relationships from early to middle adolescence
 Note. Bold = boys, italic = girls. Only significant paths are drawn.

mean. For instance, higher initial levels of support were related to lower initial levels of conflict and for lower initial levels of conflict there is less room to move downwards over time.

The same could be true for the positive intercept-slope correlation we found between conflict and support for relationships with both parents, indicating that a higher initial level of conflict was related to a relatively greater increase of support. For instance, higher initial levels of conflict were related to lower initial levels of support and lower initial levels of support have much room to move upwards over time to the higher mean. In these cases, the negative correlation between the intercepts of support and conflict and the negative correlation between the slopes of support and conflict are indicative of regression artifacts.

2.3.10 Linkages between support and power in middle adolescence

A positive intercept-intercept correlation between support and power was found only in father-son dyads. This means that in father-son relationships a higher level of support is related to a higher level of power. Only for relationships with mothers, we found a significant positive correlation between the intercept of support and the slope of power and a significant negative correlation between the intercept of power and the slope of support. This means that more supportive mothers had a smaller decrease in power, whereas mothers who were perceived by adolescents as more powerful revealed a smaller increase, or greater decrease, in support. The association between a higher level of power and a greater decrease of support could also be an indication of a changing function of power: In early adolescence, parental power might be accepted and needed, whereas in middle adolescence parental power might be considered to be intrusive.

2.3.11 Linkages between conflict and power in middle adolescence

We found a positive intercept-intercept correlation between conflict and power for all dyads except for father-daughter dyads, which means that a higher initial level of conflict was related to a higher initial level of power. Furthermore, we found a positive slope-slope correlation between conflict and power for the relationships with both parents, except for father-son dyads, for whom this path was not estimated because of insignificant slope variance of power. So for mother-daughter, mother-son, and father-daughter relationships, a greater decrease in conflict was related to a greater decrease in power.

2.4 Discussion

In this study, we investigated developmental changes in parent-adolescent relationships towards more equality by examining perceived parental support, perceived conflict with parents and perceived parental power with both fathers and mothers from age 12 to 15 and from age 16 to 19.

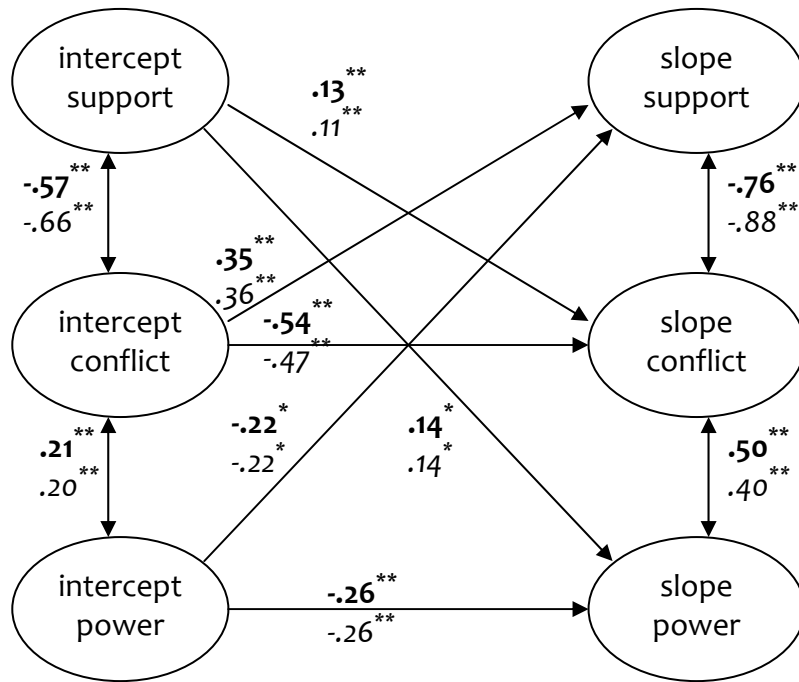


Figure 2.9 Linkages in adolescent-mother relationships from middle to late adolescence
 Note. Bold = boys, italic = girls. Only significant paths are drawn.

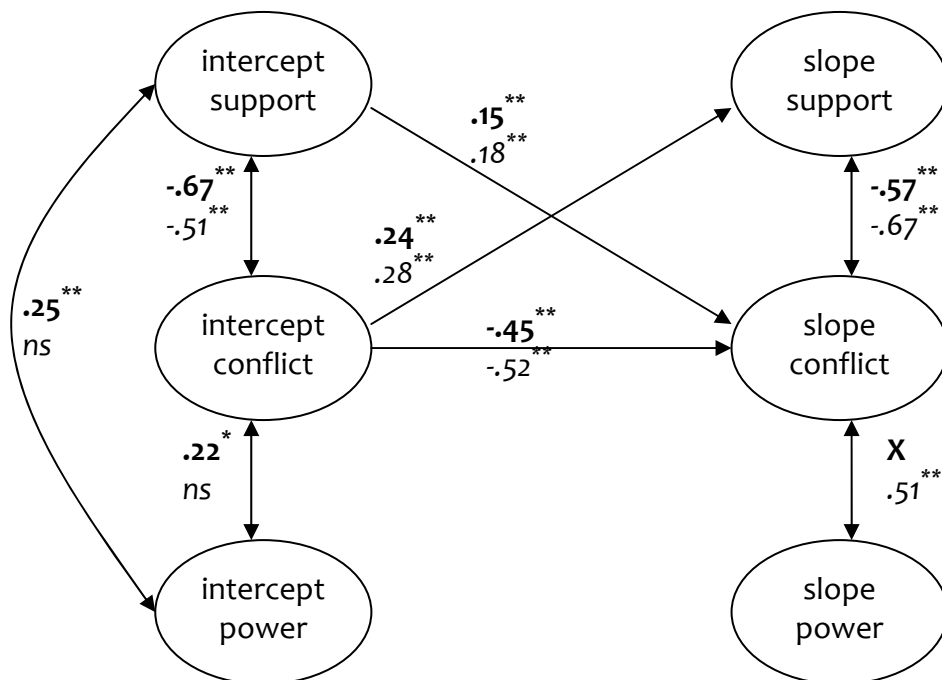


Figure 2.10 Linkages in adolescent-father relationships from middle to late adolescence
 Note. Bold = boys, italic = girls. Only significant paths are drawn.

The longitudinal design allowed us to extend earlier findings about the development of these relationship characteristics. Moreover, we examined the way these changes were interlinked over time to test whether or not conflicts with parents played a central role in the development of parent-adolescent relationships towards greater equality.

2.4.1 Development towards more equality of power

Our results confirm that parent-child relationships converge towards more age-appropriate horizontal and egalitarian relationships over the course of adolescence (Russell, Pettit, & Mize, 1998). Overall, regarding developmental changes not many differences were found between relationships with fathers and mothers or between boys and girls (see Russell & Saebel, 1997), suggesting that relationships with both parents generally develop similarly for boys and girls. For perceived parental power, we found a decrease from early to middle and from middle to late adolescence for both boys and girls. This decline was found to be significantly faster from early to middle adolescence than from middle to late adolescence. Although we found perceived parental power to decline earlier than expected (Furman & Buhrmester, 1992), these results confirm that the power balance in parent-child relationships becomes less asymmetrical during adolescence (Laursen & Bukowski, 1997).

Furthermore, our findings show that the transition to more equality in parent-adolescent relationships is accompanied by changes in support and conflict. As expected (Furman & Buhrmester, 1992), we found perceived support from mothers and fathers to decline from early to middle adolescence for both boys and girls and to stabilize from middle to late adolescence, although only for boys. In contrast to our hypothesis, support increased significantly from middle to late adolescence for girls. For perceived conflict with mothers and fathers, we found a significant increase from early to middle adolescence and a significant decline from middle to late adolescence for both boys and girls. This confirms that conflict is most intense during middle adolescence (Laursen et al., 1998). Thus, as parent-adolescent relationships become more egalitarian over time, support from parents temporarily decreases and conflict with parents temporarily increases.

2.4.2 Developmental linkages between support, conflict, and power

In concurrence with the idea that parent-adolescent relationships become more egalitarian over time (Youniss & Smollar, 1985), we found a generally significant positive relation between perceived parental support and perceived parental power in early adolescence, but not in middle adolescence. Whereas in early adolescence, parents perceived by adolescents as powerful were viewed as supportive, this link diminished for the greatest part during middle adolescence. This finding suggests that during middle adolescence a change takes place regarding adolescents'

perceptions of parental power from a positive and legitimate to a neutral and less legitimate function in increasingly egalitarian relationships. Possibly, early adolescents tend to comply automatically with parents' dominant suggestions and see them as legitimate and supportive, whereas middle adolescents desire more autonomy from more dominant parents and as a result perceive these parents as less supportive over time.

Although we concluded before that adolescent relationships with both mothers and fathers generally develop similarly, two relevant differences appeared with respect to developmental linkages between support, conflict, and power. Firstly, it appeared that the link between a greater increase in conflict and a smaller decrease in power from early to middle adolescence was especially strong in father-daughter relationships. This suggests that, specifically in father-daughter relationships with highly increasing levels of conflict, daughters perceive their fathers as remaining relatively dominant. Secondly, the link between support and power partly continued from middle to late adolescence in mother-adolescent relationships, whereas in father-adolescent relationships this link disappeared after middle adolescence. It seems that in mother-adolescent relationships issues of power and support continue to play an important and rather contradictory role. On the one hand, mothers who were perceived by middle adolescents as more powerful were considered to be relatively less supportive over time, suggesting that middle to late adolescents perceive maternal power as unwanted and intrusive. On the other hand, supportive mothers remained more powerful over time, suggesting that middle to late adolescents still appreciate more dominant mothers and see them as a guide.

2.4.3 Contributions and implications

Although both the separation-individuation (Blos, 1967) and the autonomy-relatedness perspectives (Cooper, Grotevant, & Condon, 1983; Grotevant & Cooper, 1986) provide indications for conflict as an impetus for change towards more equality in parent-adolescent relationships (Blos, 1979; see also Zimmer-Gimbeck & Collins, 2003), our findings did not confirm this assumption. No relations between initial conflict and greater decreases in power were found. Hence, perceived conflict with parents turned out not to be an impetus for changes in power towards greater equality. Instead, our findings suggest that initial levels and changes in support, conflict, and power tend to co-occur. Adolescents who perceive higher levels of conflict with parents also perceive higher levels of parental power and lower levels of parental support. Greater increases in perceived conflict were related to relatively small decreases in perceived parental power and relatively large decreases in perceived parental support. So, when adolescents perceive many conflicts with their parents, they see them as relatively non-supportive power figures and this remains the same over the course of adolescence, yet parental power does not decrease faster when adolescents perceive more conflicts with their parents. Thus, our assumption that perceived conflict with parents would be an impetus for changes in perceived parental power was not confirmed. Even though our results confirm the process suggested by both perspectives that adolescents become more autonomous and parent-adolescent relationships become more

equal (Blos, 1967; Grotevant & Cooper, 1986), the hypothesis that this process is stimulated by parent-adolescent conflict has to be rejected. Apparently, the relationship adjustment toward greater equality is related to, but not stimulated by, conflict with parents.

The conclusion that parent-adolescent relationships do indeed become increasingly equal over time is consistent with the suggestion of both the separation-individuation perspective and the autonomy-relatedness perspective that adolescents develop towards more independence and autonomy over time. The decline and later stabilization of support across adolescence for boys supports the separation-individuation perspective that parent-adolescent relationships become more detached, whereas the decrease in perceived parental power concurs with the growing individuation and autonomy of adolescents, as implied by both the separation-individuation and the autonomy-relatedness perspectives. Also, consistent with the autonomy-relatedness perspective is the finding that conflict is not predictive of changes in perceived parental support. The significant paths between initial conflict and changes in support were in the opposite direction, that is, a higher level of conflict was related to a smaller decrease of support instead of a greater decrease of support. Furthermore, these effects probably indicate regression to the mean in the sense that those who reported higher initial levels of conflict reported low support to begin with, and support could therefore not decline that much anymore. Even though support does decline from early to middle adolescence, the overall level of perceived parental support remains rather high over the course of adolescence, indicating that adolescents and their parents remain connected (see Silverberg, Tennenbaum, & Jacob, 1992).

2.4.4 Strengths and limitations

The current study has several important strengths. To start with, the design allowed for longitudinal analyses on the development of perceived parental support, perceived conflict with parents, and perceived parental power in parent-adolescent relationships, thereby extending current knowledge based mainly on cross-sectional studies. The development of parent-adolescent relationships was examined in two age groups from early to middle adolescence and from middle to late adolescence, thanks to the availability of a total age range from 12 to 15 and from 16 to 19 years. Furthermore, by using latent growth curve models, more insight has been gained on linkages over time between these relationship characteristics in parent-adolescent relationships. In this way, our study makes a relevant contribution to the current knowledge on the development of parent-adolescent relationships.

The current study also has several limitations. Despite the longitudinal design, this study was nevertheless limited in that two groups of participants were assessed over four measurement waves, instead of one group that was assessed from early to late adolescence. Even though it is not possible to see what happens exactly between ages 15 and 16, the developmental changes suggest that the gap between the two age groups is due to a curvilinear growth pattern throughout adolescence. In future research a longitudinal design that covers the entire age period of adolescence would be preferable.

Another limitation was that the data were based on self-reports of adolescents and therefore describe only adolescents' perceptions of parent-adolescent relationships. This is specifically problematic considering that parents and adolescents often report different perceptions (Renk, Donnelly, Klein, Oliveros, & Baksh, 2008; Vierhaus & Lohaus, 2008). On the other hand, it has been frequently found that adolescents more accurately report about their relationships than parents with respect to unpleasant aspects and that adolescents' perceptions regarding conflict are more likely to match reports from independent observers (Collins & Laursen, 2004b). Furthermore, relationship quality is for a large part in the 'eye of the beholder' (Branje, van Aken, & van Lieshout, 2002) and adolescents' perceptions of parent-adolescent relationships might influence parent-adolescent interactions and adolescent developmental outcomes. Nevertheless, using observations or multi-informant questionnaires could give more information on development in these relationships.

2.4.2 Conclusions

Taken as a whole, our study provides three conclusions: (1) Parent-adolescent relationships become more egalitarian during adolescence, (2) parents perceived by adolescents as powerful are viewed as supportive and vice versa, especially in early adolescence, and (3) perceived conflict with parents is related to but not an impetus for changes in parent-adolescent relationships towards more equality. Adolescents who perceive many conflicts with their parents see them quite consistently as non-supportive power figures and this does not change throughout adolescence. We found support for both the separation-individuation and the autonomy-relatedness perspectives regarding the decrease of parental power, which reflects increasing adolescent autonomy. Furthermore, we found support for the separation-individuation perspective with respect to the decrease in parental support, reflecting separation from parents. Although changes in conflict tended to go hand in hand with changes in power, these changes were not stimulated by conflict with parents. Since conflict with parents was theorized but not found to play a significant role in the development of parent-adolescent relationships, future research should include other indicators that could possibly stimulate change in parent-adolescent relationships towards more equality.

CHAPTER 3

Developmental changes and gender differences in adolescents' perceptions of friendships²

² I. H. A. De Goede, S. J. T. Branje, & W. H. J. Meeus (2009). Developmental changes and gender differences in adolescents' perceptions of friendships. *Journal of Adolescence*, 32, 1105-1123.

3 Developmental changes and gender differences in adolescents' perceptions of friendships

This 5-wave study aims to investigate the development of adolescents' perceptions of support, negative interaction, and power in best friendships from age 12 to 20. Furthermore, gender differences and linkages between the three dimensions are explored. A total of 593 early adolescents (53.6% boys) and 337 middle adolescents (43.3% boys) participated. A multigroup multivariate accelerated growth curve showed an increase of support for both boys and girls. Negative interaction was found to temporarily increase and then decrease for boys, while remaining stable for girls. Power temporarily increased for boys and decreased for girls. Results indicated that: (1) friendships become more supportive during adolescence, (2) power issues are more prominent in friendships of boys and more powerful peers are perceived as more supportive by boys but not by girls, and (3) friendships of boys show a lagged development towards more equality.

3.1 Introduction

Over the course of adolescence friendships are subject to various changes (Furman & Buhrmester, 1992). Adolescents spend more and more time with their peers (Brown, 2004) and in middle and late adolescence, adolescents spend more free time with close friends compared to any other relationship (Laursen, 1995). The increasing desire of adolescents to spend time with their friends is argued to be a result of the growing importance of friendship intimacy for adolescents' well-being (Sullivan, 1953). Because friendships are thought to be increasingly characterized by equality, mutual respect, mutual trust, and symmetrical reciprocity (Youniss & Smollar, 1985) friends might be the pre-eminent persons adolescents turn to for fulfillment of these needs (Sullivan, 1953). Furthermore, the horizontal nature of friendships (Laursen & Bukowski, 1997) may provide adolescents with a context to practice their increasing capacities of perspective taking, which may enable them to develop principles of relating to others that are based on equality and can be generalized to other situations and romantic relationships later on (Piaget, 1932/1965; Selman, 1980; Sullivan, 1953; Youniss & Smollar, 1985; see Brown, 2004).

These considerations suggest that adolescents' perceptions of friendships change over time. However, most of the findings on age-related changes in friendship perception are based on cross-sectional studies and little is known about developmental changes based on longitudinal data.

Longitudinal research is needed to give a more decisive answer regarding the development of the perception of the friendship relationship (Ruspini, 1999). This study provides more clarity on the development of adolescent friendships by longitudinally examining developmental changes in adolescent friendships as well as the interplay between these changes. Also, the current study examines gender differences in the developmental course of friendships. The focus lies on the perceptions of adolescents with respect to the relationship they have with their best friend, because compared to other close friendships, best friendships are found to be more intimate (Degirmencioglu, Urberg, Tolson, & Richard, 1998; Newcomb & Bagwell, 1995), more stable (Berndt & Keefe, 1995), and they have a greater developmental significance (Hartup, 1996).

Although different researchers have distinguished between various aspects of friendship quality (Berndt, 2002; Bukowski, Hoza, & Boivin, 1994; Furman & Buhrmester, 1985; see Furman, 1996; Parker & Asher, 1993), all conceptualizations include aspects of closeness, intimacy, and support on the one hand, and negative interaction or conflict on the other hand. In addition, support and negative interaction are key dimensions in many theories on development of close relationships. Attachment theory assumes that a need for relatedness or support stimulates friendships (Bowlby, 1969; see Rubin, Bukowski, & Parker, 2006). Also, psychoanalytic theory and Sullivan's developmental model of interpersonal relationships emphasize that adolescents start close and intimate relationships with same-sex peers to fulfill their social needs and these friends become increasingly important as providers of support (Blos, 1967; Buhrmester & Furman, 1986; Furman & Buhrmester, 1992; Rubin, Bukowski, & Parker, 2006; Sullivan, 1953). The role of negative interaction is stressed by the social relational perspective, which states that conflict is fundamental in close relationships and results from the need to integrate different objectives and expectations (Laursen & Collins, 1994).

In addition, several theories emphasize that equality is an important characteristic of friendships. Sullivan's developmental model of interpersonal relationships hypothesizes that intimate and mutual adolescent friendships are the first relationships characterized by equal power, which enhances adolescent development by stimulating a sense of well-being and self-validation (Rubin, Bukowski, & Parker, 2006; Sullivan, 1953). Similarly, the social relational perspective highlights interdependence, or the balance of power, as one of the main characteristics of friendships (see Collins & Laursen, 2004b). Because of the importance of support, negative interaction, and power in theories of adolescent development, the current study examines developmental changes in the perceptions of adolescents regarding these dimensions. In the current study, we define support as the amount of perceived support from the best friend, including feelings of companionship, instrumental aid, intimacy, nurturance, affection, admiration, and reliable alliance. Negative interaction is defined as the perceived intensity of conflict and antagonism in adolescent friendships. We define power as the relative power and dominance the adolescents attributed to their best friend.

3.1.1 Development of support, negative interaction, and power

Adolescents are thought to develop mutual intimacy and support from early adolescence onwards (Selman, 1981; Shulman, Laursen, Kalman, & Karpovsky, 1997). Selman hypothesized in his five stage model of friendship development that during adolescence, friendships become closer and more intimate with the function of having a reliable source of support (Selman, 1980). Both psychoanalytic theory and Sullivan's developmental model of interpersonal relationships emphasize that whereas adolescents become more autonomous from parents, their friendships become closer and more intimate (Blos, 1967; Furman & Buhrmester, 1992; Rubin, Bukowski, & Parker, 2006; Sullivan, 1953). Thus, these theories suggest an increase of support from friends during adolescence. For these changes in support some longitudinal evidence is available. Perceived support from friends was found to increase from early to middle adolescence (Stice, Ragan, & Randall, 2004). Also, from middle to late adolescence support from friends was found to increase, with a steeper rise for boys compared to girls (Way & Greene, 2006).

Regarding negative interaction, Selman (1980) theorized that adolescents learn to better differentiate between minor conflicts that could improve the friendship and larger conflicts that could threaten the friendship. According to Selman (1980), adolescents acquire the required perspective taking skills to understand each other and to take each other's opinion into consideration, and as a result the occurrence of negative interactions decreases in adolescent friendships. Moreover, adolescents' interactions are thought to become increasingly based on equality, whereas conformity in friendships becomes less important (Berndt, 1979; Selman, 1980; Shulman, Laursen, Kalman, & Karpovsky, 1997), which might result in a decrease of negative interaction. Although there is no longitudinal empirical evidence available with respect to development of negative interaction with friends across adolescence, it was cross-sectionally found that negative interaction with friends was higher in early adolescence than in middle adolescence and at the same level in middle and late adolescence (Furman & Buhrmester, 1992).

Considering that friendships are thought to become increasingly characterized by equality and reciprocity (Youniss & Smollar, 1985), it seems plausible that power in adolescent friendships declines over time. Also, Selman (1980) theorized that during adolescence, friendships develop towards more interdependence, because adolescents learn to negotiate and integrate needs (Shulman & Knafo, 1997; Shulman, Laursen, Kalman, & Karpovsky, 1997). Empirical evidence on this topic is, however, not consistent. A cross-sectional study showed that the level of relative power in adolescent friendships did not differ for groups of early, middle, and late adolescents (Furman & Buhrmester, 1992). Another cross-sectional study showed that the related concept of control, measuring the preference for unilateral decision making, was significantly higher for 12-year-olds compared to 14-year-olds and that 16-year-olds did not differ from 12- and 14-year-olds (Shulman et al., 1997). These are puzzling findings that call for a longitudinal approach.

3.1.2 Gender differences

Friendships of boys and girls have often been suggested to differ: whereas girls are thought to be more focused on intimate friendship dyads characterized by self-disclosure, empathy, interdependence, and a need for nurturance, boys generally interact in larger friendship groups with a focus on companionship, competition, control, and conflict (Galambos, 2004; Maccoby, 1990). Friendships of girls are expected to be more supportive and focused on equality than friendships of boys, whereas in friendships of boys negative interaction and issues of dominance are assumed to be more present (see Maccoby, 1990). Empirical studies indeed showed that friendships of girls have higher levels of peer support (Colarossi & Eccles, 2000; Furman & Buhrmester, 1992; Helsen, Vollebergh, & Meeus, 2000; Jenkins, Goodness, & Buhrmester, 2002), and that friendships of boys have higher levels of conflict (Jenkins, Goodness, & Buhrmester, 2002; Updegraff et al., 2004). Findings regarding power are inconsistent. Although one study showed that boys reported the same level of power as girls (Furman & Buhrmester, 1992), another study showed that boys reported higher levels on the related concept of control than girls (Shulman et al., 1997). Despite these findings on concurrent gender differences, little is known about gender differences with respect to development of adolescent friendships. However, since girls are generally two years ahead of boys with respect to intellectual and social-cognitive functioning (Colom & Lynn, 2004; Porteous, 1985; Silberman & Snarey, 1993), it is plausible that friendships of girls become more intimate, less conflictual, and more equally balanced with respect to power at an earlier age compared to friendships of boys. Given that the literature reveals differences between boys and girls with respect to perceived friendship characteristics, we will investigate gender differences concurrently as well as over time.

3.1.3 Linkages between support, negative interaction, and power

Next to investigating developmental changes and gender differences, we will also examine linkages between developmental changes in support, negative interaction, and power. Several theories describe independent parallel developments between these three friendship characteristics. For example, Selman (1980) theorized that adolescent friendships become more intimate and more equally balanced with respect to power. Furthermore, the social relational model (Laursen, 1996) addresses the balance of closeness and conflict in friendships, with closeness gaining in importance and conflict becoming increasingly minimized. It is however not clear whether or not these independent parallel developments are related over time in the sense that change in one relationship characteristic is associated with change in another relationship characteristic. As a result, the current literature provides no source for hypotheses about linkages over time.

Research on linkages between relationship characteristics in adolescent friendships is limited and predominantly cross-sectional. The existing literature on this topic shows no significant relation between support from friends and conflict with friends in early adolescence (see Jenkins

et al., 2002). Nevertheless, for the related concept of self-efficacy in giving intimate support, a significant negative relation with conflict was found for girls but not for boys (Jenkins et al., 2002), suggesting gender differences regarding linkages between support and negative interaction. It seems that the level of conflict in a friendship is lower when adolescent girls feel more competent with respect to maintaining an intimate and supportive friendship.

With respect to linkages between support and power no empirical evidence is available. However, for the related concepts of intimacy and control, girls who were more controlling were found to show relatively low levels of friendship intimacy two years later (Updegraff et al., 2004). These findings suggest that friendships of girls with higher levels of power will be relatively less supportive two years later. Being more controlling might obstruct the usual development of girls towards higher levels of intimacy (Updegraff et al., 2004).

Although no linkages between negative interaction and power have been reported, it was found that more controlling adolescents reported higher levels of conflict, a concept related to negative interaction, than less controlling adolescents (Updegraff et al., 2004). This might indicate that powerful adolescents are less avoidant to start negative interactions.

3.1.4 Aim of the present study

In this study we will longitudinally investigate the development of adolescent friendships from the perspective of the adolescent by examining mean developmental changes of perceived support, perceived negative interaction, and perceived power in the relationship with friends, as well as interindividual differences in these changes. Furthermore, we will explore gender differences and linkages between these three dimensions. Our research questions are:

(1) How do mean levels of perceived support, perceived negative interaction, and perceived power in the relationship with friends develop during adolescence from age 12 to 20? We expect that perceived support from friends will increase throughout adolescence. For negative interaction we expect a decline from early to middle adolescence and stabilization from middle to late adolescence. We hold no explicit expectation for the development of relative power because of inconsistent evidence. We will explore gender differences in these developmental changes.

(2) How are the developmental changes of perceived support, perceived negative interaction, and perceived power within adolescent friendships associated to each other over time? Hypotheses are only formulated with respect to concurrent correlations and linkages over time will be assessed in an exploratory manner. Regarding concurrent correlations, we expect a non-significant relation between support and negative interaction for boys and a negative relation between support and negative interaction for girls. Also, we expect a positive relation between negative interaction and power for both boys and girls and a negative relation between support and relative power for girls but not for boys.

3.2 Method

3.2.1 Participants

Data for this study were collected as part of an ongoing longitudinal research project on CONflict And Management Of RELationships (CONAMORE; Meeus et al., 2004). The current study uses five measurement waves with a one-year interval between each of the waves for all participants. From 2001 onwards, data collection took place in the fall of each year. The longitudinal sample consists of 1341 participants. Participants were asked to identify their best friend and to answer the items while thinking about the relationship with this best friend. They could not select a romantic partner as their best friend. Participants were, however, not restricted to select a same-age, same-school, or same-gender friend. To prevent interdependence in the data, two criteria were used to select adolescents from the total sample. Firstly, when two or more target adolescents selected the same person as their best friend in a particular wave, one dyad was randomly selected. Secondly, when two adolescents selected each other as their best friend in a particular wave and thus formed a mutual friendship, one report of this dyad was randomly selected to avoid interdependence in the data. This selection was conducted for every measurement wave separately and resulted in a sample of 930 unique and fully independent friendship dyads, since each friendship in the final sample was reported on only once. From the 930 participants there were 464 boys (49.9%) and 466 girls (50.1%). Two age groups were represented: 593 early adolescents (63.8%), who were on average 12.4 years of age ($SD = .59$) and 337 middle adolescents (36.2%), who were on average 16.7 years of age ($SD = .82$) during the first wave of assessment. The early adolescent group consisted of 318 boys (53.6%) and 275 girls (46.4%). The middle adolescent group consisted of 146 boys (43.3%) and 191 girls (56.7%). Because both age groups were assessed during five measurement waves, a total age range from 12 to 16 and from 16 to 20 years was available. Most participants were Dutch (84.4%), and others identified themselves as part of a Dutch non-Western ethnic minority group. Although there was no specific focus on same-sex friendships, the majority of the participants chose to report about a same-sex friendship; 62.0% did so in all five waves, 18.1% in four waves, 9.9% in three waves, 5.7% in two waves, and 3.1% in one wave. Only 0.4% of the participants never reported on a same-sex friendship. Regarding educational level, around one third of the participants were in pre-university education, around one third were in preparatory higher professional education and around one third were in preparatory secondary vocational education. At the first measurement wave the total years of education were just over 6 years for the early adolescent group and just over 10 years for the middle adolescent group. Sample attrition was 5.6 % from wave 1 to wave 5. Missing values were estimated in Amos with the Full Information Maximum Likelihood approach for model estimation.

3.2.2 Procedure

The participating adolescents were recruited from various high schools in the province of Utrecht, the Netherlands. Participants received an invitation letter, describing the research project and goals and explaining the possibility to decline from participation. Both parents and adolescents provided informed consent. More than 99% of the approached high school students decided to participate. The participants completed the questionnaires at their own high school or at home, during annual assessments. Confidentiality of responses was guaranteed. Verbal and written instructions were offered. The adolescents received €10 as a reward for every wave they participated in.

3.2.3 Measures

The Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992) was used to measure adolescents' perceptions of support from friends, negative interaction with friends, and power of friends. An explorative factor analysis for three factors showed that all factor loadings were above .47 for support from the best friend, above .57 for negative interaction with the best friend, and above .45 for power of the best friend, with no cross-loadings higher than .21, .07, and .22 respectively. Internal consistencies were high with alphas ranging across waves from .91 to .93 for support of friends, from .82 to .87 for negative interaction with friends, and from .82 to .86 for power of the best friend. The factor and construct validity of the NRI are adequate (Edens, Cavell, & Hughes, 1999).

Support. Support was assessed using the short version of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992). The support scale consisted of twelve items, including items from different subscales like companionship, instrumental aid, intimacy, nurturance, affection, admiration, and reliable alliance. Answers were indicated on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Examples of items are: "Does your best friend like or approve of the things you do?" and "How much does your best friend really care about you?"

Negative interaction. Negative interaction was assessed by combining the conflict and antagonism subscales of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992). The negative interaction scale consisted of six items. The participants indicated their answers on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Examples of items are: "Do you and your best friend get on each other's nerves?" and "How much do you and your best friend get upset with or mad at each other?"

Power. Power was assessed by combining the relative power and the dominance subscales of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992). The power scale consisted of six items. Answers were given based on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Low scores on the power scale show that

adolescents do not see their best friend as more powerful, indicating that both adolescents and their best friend are equally powerful and have a high level of equality in their relationships. High scores indicate that adolescents perceive their best friend as more powerful and feel their relationship is less equal. Examples of items are: “How often does your best friend tell you what to do?” and “To what extent is your best friend the boss in your relationship?”.

3.3 Results

3.3.1 Descriptives

Table 3.1 provides the means and standard deviations for the observed values of the variables support, negative interaction, and power on the five measurement waves for both the early and the middle adolescents and for boys and girls separately.

3.3.2 Strategy of analyses

A multigroup multivariate latent growth curve model was used to examine developmental changes in support, negative interaction, and power (Duncan, Duncan, Strycker, Li, & Alpert, 1999; McArdle & Epstein, 1987). Also, linkages between these changes and gender differences in these changes were investigated. In the model three latent factors, the intercept, the slope, and a quadratic slope, are estimated for each construct from the time-based indicators. We distinguished between four groups: early adolescent boys, early adolescent girls, middle adolescent boys, and middle adolescent girls. An accelerated longitudinal design (Duncan, Duncan, & Strycker, 2001) was used to estimate the development of support, negative interaction, and power from age 12 to 20. For all groups the intercept factor loadings were fixed at 1, because the intercept is a constant over time. The slope factor loadings were fixed at 0, 1, 2, 3, and 4 for the early adolescent groups and at 4, 5, 6, 7, and 8 for the middle adolescent groups. The quadratic slope factor loadings were fixed at 0, 1, 4, 9, and 16 for the early adolescent groups and at 16, 25, 36, 49, and 64 for the middle adolescent groups. Means and variances of the intercepts, slopes, and quadratic slopes as well as linkages between intercepts and slopes were fixed to be equal for the two age groups within the same gender. This allows estimating one growth curve from the ages 12 to 20.

Furthermore, within-time correlations between errors were added to the model. Because variances of quadratic slopes were non-significant and freely estimating these variances and the correlations with these variances resulted in negative variances and estimation problems, quadratic slope variances and correlations with the quadratic slopes were fixed at zero.

Gender differences were examined by comparing a model in which groups of boys and girls were allowed to differ versus models with similar parameters for boys and girls. We stepwise tested whether means, variances, and linkages should be constrained to be equal for boys and girls. Using chi-square difference tests we determined which parameter constraints made a

Table 3.1 Means and standard deviations of the observed values

	Early adolescents					Middle adolescents						
	wave 1	wave 2	wave 3	wave 4	wave 5	wave 1	wave 2	wave 3	wave 4	wave 5		
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)		
Support												
Boys	2.72 (.85)	2.86 (.74)	2.88 (.71)	3.00 (.67)	3.04 (.68)	2.85 (.74)	3.15 (.60)	3.21 (.63)	3.20 (.54)	3.18 (.60)		
Girls	3.42 (.74)	3.54 (.69)	3.49 (.70)	3.56 (.65)	3.65 (.60)	3.48 (.67)	3.53 (.56)	3.54 (.57)	3.54 (.59)	3.48 (.62)		
Neg. Int.												
Boys	1.33 (.44)	1.42 (.50)	1.43 (.56)	1.39 (.51)	1.34 (.47)	1.33 (.41)	1.32 (.43)	1.26 (.37)	1.26 (.42)	1.26 (.46)		
Girls	1.23 (.40)	1.33 (.44)	1.29 (.41)	1.21 (.35)	1.22 (.39)	1.24 (.35)	1.30 (.45)	1.20 (.36)	1.16 (.33)	1.18 (.32)		
Power												
Boys	1.71 (.60)	1.86 (.60)	1.90 (.60)	1.89 (.58)	1.84 (.55)	1.74 (.52)	1.80 (.57)	1.78 (.51)	1.75 (.51)	1.78 (.55)		
Girls	1.73 (.50)	1.89 (.61)	1.81 (.55)	1.73 (.54)	1.75 (.52)	1.69 (.50)	1.73 (.52)	1.68 (.50)	1.61 (.48)	1.59 (.52)		

significant improvement to the model fit. Constraining the means to be equal for boys and girls significantly worsened the model fit ($\Delta\chi^2 = 265.94$, $\Delta df = 9$, $p < .001$) and means were therefore again released. Constraining the variances to be equal for boys and girls did not worsen the fit ($\Delta\chi^2 = 7.37$, $\Delta df = 6$, $p > .05$), so we kept these parameters fixed. Subsequently constraining the linkages between intercepts, between slopes, and between intercepts and slopes to be equal for boys and girls made the model fit significantly worse ($\Delta\chi^2 = 25.44$, $\Delta df = 15$, $p < .05$). These parameter constraints were therefore released again. Thus, we used a model in which the variances were fixed to be equal for boys and girls and means as well as associations were allowed to differ for boys and girls. We used critical ratios to examine gender differences in the estimated intercept and slope means and variances and the correlations within this model. The fit of the final model was adequate ($\chi^2/df = 1.66$, CFI = .93, RMSEA = .03).

3.3.3 Development of support, negative interaction, and power

Estimated intercept and slope means and variances are presented in Table 3.2. At the first wave, critical ratios showed that girls perceived a significantly higher level of support from their best friends compared to boys ($z = 11.42$). Support from friends was found to develop curvilinearly with an increase from early to late adolescence (see Figure 3.1). Critical ratios showed no gender difference ($z = -1.34$ and $z = -.37$) in rate of change, suggesting that the mean gender difference in perceived support that was initially found remained over time.

Boys were found to initially perceive more negative interaction with friends than girls ($z = -2.69$). For boys we found a significant quadratic change with an overall decrease towards late adolescence, but negative interaction in girls' friendships was found to remain stable throughout adolescence (see Figure 3.2). No significant gender differences were found regarding the linear ($z = -1.39$) and quadratic slopes ($z = 1.29$), however, suggesting that the initial gender difference in negative interaction also remained over time.

Initially, boys and girls were found to perceive equal levels of power of their friend ($z = 0.30$). Both boys and girls showed a curvilinear development of power. Over time, boys showed an increase in perceived power of the friend followed by a slight decline. Girls, in contrast, showed a stable level of power of the friend followed by a decline (see Figure 3.3). The linear slope differed significantly between boys and girls ($z = -2.23$), suggesting a gender difference in development of power. The quadratic slope, however, was not significantly different for boys and girls ($z = 0.87$).

3.3.4 Linkages between support, negative interaction, and power in adolescent friendships

With respect to linkages between support and negative interaction we found mainly correlations at intercept level (see Table 3.3 and Figure 3.4). Also, we found different results for boys and girls.

Table 3.2 Results of the multigroup multivariate latent growth curve model, part 1

	Support		Negative interaction		Power	
	Boys	Girls	Boys	Girls	Boys	Girls
IC						
M	2.730 _a ***	3.401 _b ***	1.352 _b ***	1.265 _a ***	1.751 _a ***	1.763 _a ***
σ^2	.250***	.250***	.070***	.070***	.128***	.128***
SL						
M	.096 _a ***	.063 _a ***	.019 _a	-.001 _a	.051 _b ***	.009 _a
σ^2	.005***	.005***	.001*	.001*	.002**	.002**
QU						
M	-.005 _a *	-.006 _a **	-.004 _a **	-.002 _a	-.006 _a ***	-.004 _a **
σ^2	0	0	0	0	0	0

Note. Estimated means that do not share subscripts are significantly different with respect to gender at $p < .05$, two-tailed by critical ratios. All intercept and slope variances were fixed to be equal for boys and girls. Quadratic slope variances were fixed at zero due to estimation problems.

IC = intercept, SL = linear slope, QU = quadratic slope

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

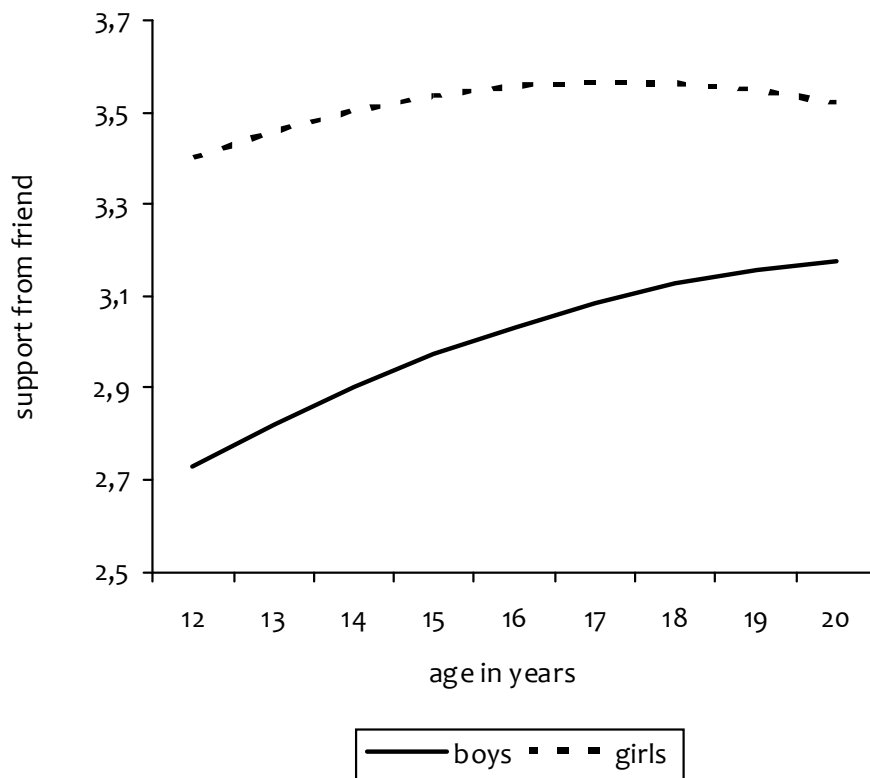


Figure 3.1 Support from best friend over time for boys and girls

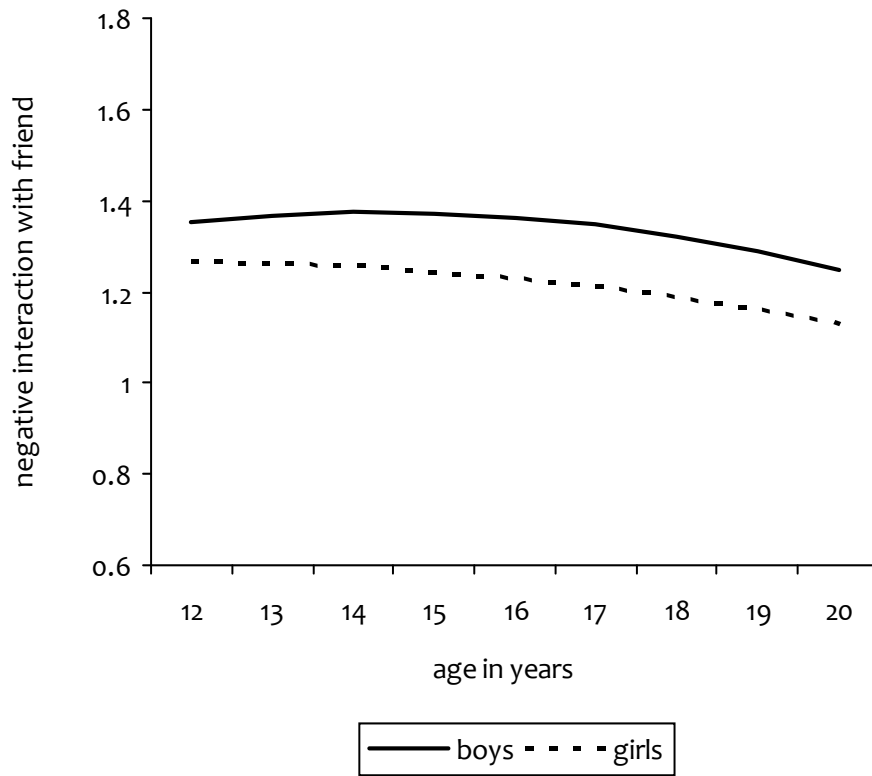


Figure 3.2 Negative interaction with best friend over time for boys and girls

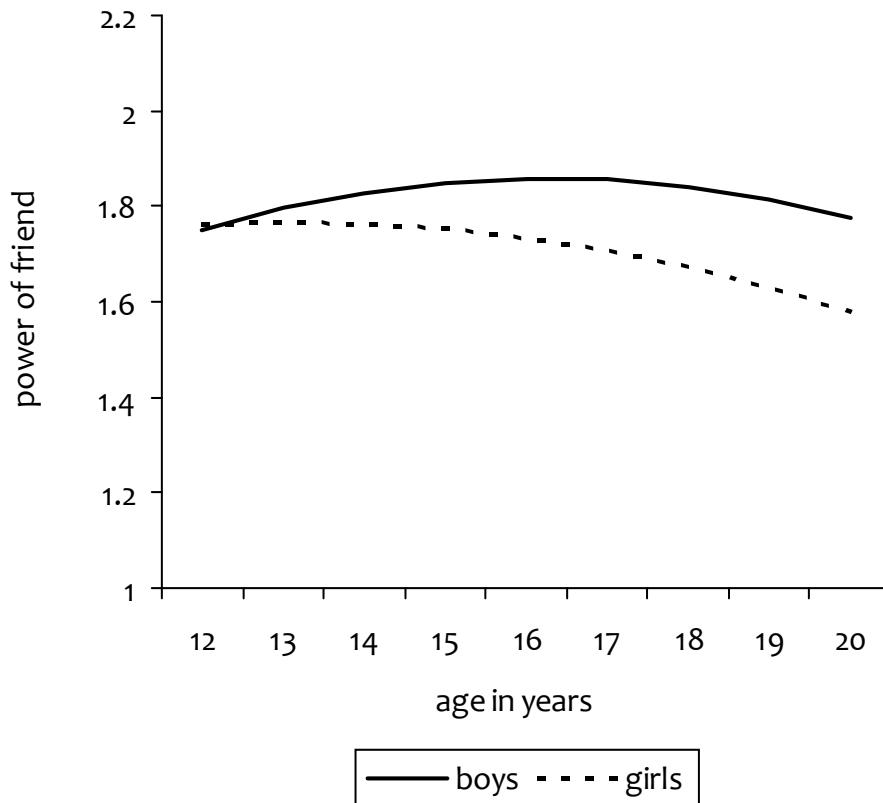


Figure 3.3 Power of best friend over time for boys and girls

Table 3.3 Results of the multigroup multivariate latent growth curve model, part 2

Relation type	Boys	Girls
Intercept-Intercept Correlations		
Support ↔ Negative Interaction	-.099 _a	-.251 _a [*]
Support ↔ Power	.379 _b ^{***}	.063 _a
Negative Interaction ↔ Power	.354 _a ^{**}	.277 _a [*]
Intercept-Slope Paths		
Support ↔ Support	-.603 _a ^{***}	-.536 _a ^{***}
Negative Interaction ↔ Negative Interaction	-.165 _a	-.526 _b [*]
Power ↔ Power	-.213 _a	-.355 _a
Intercept-Slope Cross-paths		
Support ↔ Negative Interaction	-.572 _b [*]	.118 _a
Support ↔ Power	-.343 _a	-.217 _a
Negative Interaction ↔ Support	-.045 _a	.213 _a
Negative Interaction ↔ Power	.021 _a	-.067 _a
Power ↔ Support	-.312 _a	-.088 _a
Power ↔ Negative Interaction	.088 _a	.091 _a
Slope-Slope Correlations		
Support ↔ Negative Interaction	.471 _a	-.450 _a
Support ↔ Power	.291 _a	.088 _a
Negative Interaction ↔ Power	.416 _a	.254 _a

Note. Estimated means that do not share subscripts are significantly different with respect to gender at $p < .05$, two-tailed by critical ratios.
 IC = intercept, SL = slope, ^{*} $p < .05$. ^{**} $p < .01$.

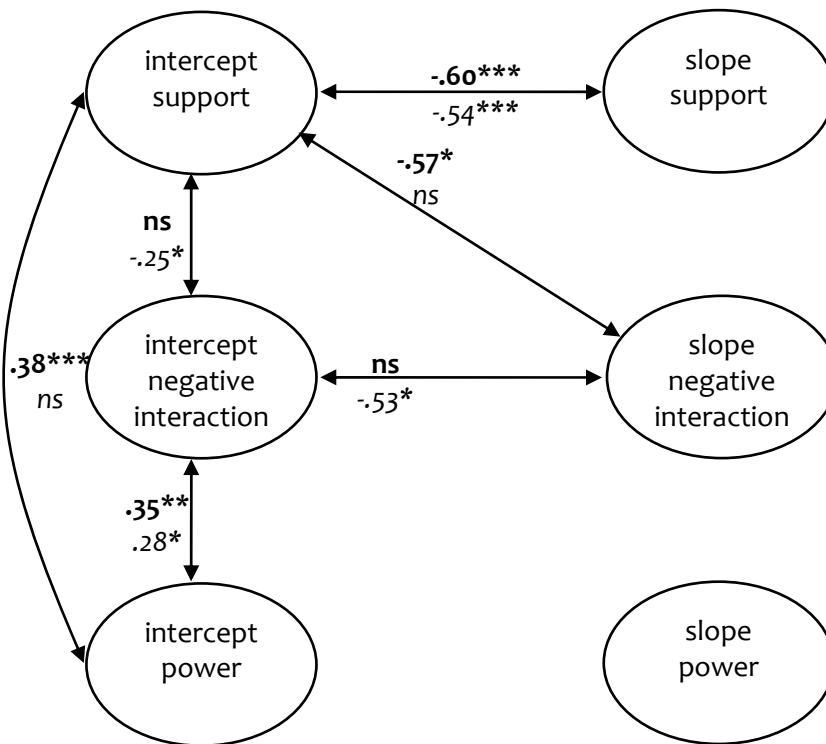


Figure 3.4 Linkages in adolescent friendships

Note. Bold = boys, italic = girls.

^{*} $p < .05$. ^{**} $p < .01$. ^{***} $p < .001$.

For girls we found a significant negative correlation between the intercepts of support and negative interaction, meaning that higher initial levels of support were related to lower initial levels of negative interaction. Although this correlation was not found to be significant for boys, the coefficients for girls and boys were not significantly different ($z = -.94$). For boys we found a significant positive correlation between the intercepts of support and power. For girls the relation between the intercepts of support and power was not significant and the coefficients for girls and boys were significantly different ($z = -2.12$). This means that for boys but not for girls, higher levels of support were related to higher levels of power. We found a significant positive correlation between the intercepts of negative interaction and power for both boys and girls, indicating that higher initial levels of negative interaction were related to higher initial levels of power.

For boys we found a significant negative correlation between the intercept of support and the slope of negative interaction, indicating that a higher initial level of support was related to a greater decrease of negative interaction. The correlation between the intercept of support and the slope of negative interaction was not significant for girls and this path was significantly different for boys and girls ($z = 2.13$).

3.4 Discussion

In this study, we investigated developmental changes in adolescent friendships as well as gender differences and linkages in these changes. Although development in adolescent relationships has been theorized repeatedly, empirical evidence is still limited, mainly cross-sectional, and often inconsistent. This study takes a longitudinal approach and can therefore extend current knowledge on development of adolescent friendships from age 12 to 20. We examined perceived support from friends, perceived negative interaction with friends, and perceived power of friends from age 12 to 20 using an accelerated latent growth curve model. This longitudinal design allowed us to extend earlier findings about development of these relationship characteristics in adolescent friendships.

3.4.1 Development of adolescent friendships towards more intimacy and reciprocity

All in all, our results confirm that friendships become increasingly positive and supportive and develop towards more reciprocity during adolescence. In concurrence with our expectations we found that support increased during adolescence for both boys and girls. In addition, we found that power issues became less prevalent over time, especially for girls. This is in line with the idea that adolescent friendships become increasingly characterized by equality, mutual respect, mutual trust, and symmetrical reciprocity (Youniss & Smollar, 1985). Friendships possibly develop towards more intimacy and interdependence, because adolescents cognitively develop and acquire

the required perspective taking skills to understand each other and to negotiate and integrate their needs (Selman, 1980; Shulman, Laursen, Kalman, & Karpovsky, 1997; Shulman & Knafo, 1997).

In contrast to our expectations, negative interaction did not decline from early to middle adolescence and then stabilized from middle to late adolescence. Instead, negative interaction showed a curvilinear development for boys with an overall decrease towards late adolescence, and remained stable over time for girls. Although the decline in negative interaction started in middle adolescence instead of early adolescence, the overall decline of negative interactions for boys was as we expected. A factor that could account for this development is that adolescents learn to better differentiate between minor conflicts and acquire better perspective taking skills which could improve the friendship (Selman, 1980). Also, conformity in friendships becomes less important (Berndt, 1979; Selman, 1980; Shulman, Laursen, Kalman, & Karpovsky, 1997), which might result in a decrease of negative interaction. In addition, it could be that friendships become more stable over the course of adolescence with as a result more positive features and less negative interactions.

It is important to note that several gender differences appeared in adolescent friendships. In line with our expectation, we found that girls perceived their friendships as more supportive compared to boys from early adolescence onwards. Over time, development of support did not significantly differ for boys and girls, suggesting that the gender difference between boys and girls remained over time (Colarossi & Eccles, 2000; Furman & Buhrmester, 1992; Helsen et al., 2000; Jenkins et al., 2002). This is in line with the theoretical notion that friendships of girls are more supportive and focused on equality than friendships of boys (Maccoby, 1990). It seems that girls focus on self-disclosure, empathy, and a need for nurturance, and boys focus on companionship, competition, and control (Galambos, 2004; Maccoby, 1990) at all stages of adolescence.

In addition, negative interaction was less present in friendships of girls: it remained stable over time and was lower than for boys, who revealed an increase during early adolescence and a decrease later on. This gender difference is in agreement with earlier studies that reported higher levels of conflict and negative interaction for boys compared to girls (Jenkins et al., 2002; Updegraff et al., 2004). An explanation for this gender difference could be that in friendships of boys, negative interaction and issues of dominance are more present due to the competitive characteristics of boys' friendships and the availability of a large group of friends rather than few intimate dyadic friendships that have to be protected, as is the case for girls (see Maccoby, 1990). It is also possible that girls' friendships become less conflictual at an earlier age compared to friendships of boys, because girls are generally two years ahead of boys with respect to intellectual and social-cognitive functioning (Porteous, 1985; Silberman & Snarey, 1993).

Furthermore, whereas power of the friend was equal for boys and girls during early adolescence, power became temporarily higher for boys during middle adolescence and decreased throughout adolescence for girls. The rise in power for boys could be related to a heightened level of conformity around ages 13 and 14 (Berndt, 1979; Coleman, 1980), which possibly leads to peer pressure and more willingness to accept dominance of a friend. During late adolescence,

conformity and power of friends are supposed to decrease again, due to adolescent autonomy development and acceptance of each other's needs (Devereux, 1970; Selman, 1981).

All in all, these gender differences indicate a lagged development for boys compared to girls. Change towards less powerful friendships takes place to a lesser extent for boys in comparison to girls. A possible explanation could be that girls have a faster cerebral cortex development than boys during early adolescence (Andrich & Styles, 1994; Colom & Lynn, 2004), with a two-year head start regarding intellectual and social-cognitive functioning during early adolescence as a result (Porteous, 1985; Silberman & Snarey, 1993).

3.4.2 Linkages between support, negative interaction, and power

Several linkages were found between the three relationship characteristics support, negative interaction, and power that were in part gender-specific and that partially confirmed our hypotheses. We found the hypothesized initial relation between support and negative interaction for girls only. This means that when levels of support are high, levels of negative interaction are low. Possibly when intimacy and support are more important aspects in a friendship, as is the case for girls (Maccoby, 1990), support and negative interaction do not go together well in a friendship. For boys it is only until later that the association between support and negative interaction arises, again indicating a lagged development for boys compared to girls. When initial levels of support in friendships of boys were higher, negative interaction decreased faster over time compared to less supportive friendships. Since negative interaction is more common in friendships of boys and support is more common in friendships of girls, it seems that boys who initially have more supportive friendships also become more similar to girls regarding negative interaction by showing a faster decrease in negative interaction.

As expected, for both boys and girls higher levels of power were concurrently related to higher levels of negative interaction. Hence, an unbalanced power division in the friendship is related to negative interaction. It might be that an unbalanced power division goes concurrently together with negative interaction or that negative interaction concurrently results in a power struggle.

In contrast with our expectation we found no significant association between support and power for girls. We formulated no expectation for boys, for whom support and power were found to be concurrently positively associated. A possible explanation for this finding is that for boys the friendship dyad is more focused on control and dominance (Galambos, 2004; Maccoby, 1990). In this form of peer interaction, it is accepted for one peer to be more dominant in deciding, because this phenomenon is inherent to the interaction form. Girls' friendship dyads, however, are more focused on decision making through polite discussion and compromise than on dominance (Maccoby, 1990). As a result it could be that girls are less accepting of an unequal power division and therefore consider a higher level of power of a friend as negative and not as supportive. We found this positive linkage between support and power also for the parent-adolescent relationship (De Goede, Branje, & Meeus, 2009b). It appeared that especially in early adolescence, when

dominance of parents is still normative, adolescents perceived powerful parents as supportive. Later on in adolescence this linkage disappeared, indicating that in more reciprocal relationships unequal divisions of power are no longer adequate. Similarly, in friendships, powerful friends might only be perceived as supportive when the friend is accepted as being hierarchically superior, and this might be more applicable to friendships of boys than to friendships of girls.

3.4.3 Strengths and limitations

In this study both concurrent correlations as well as correlations over time show how different relationship characteristics in adolescent friendships are related. In this way this study contributes to the understanding of friendship dynamics during adolescence. However, no correlated changes were found even though it is imaginable that the developments of negative interaction and power are in reality associated over time. The absence of significant correlated change could be due to a lack of statistical power and it is not to say that correlations over time do not exist in reality (see Hertzog, Lindenberger, Ghisletta, & von Oertzen, 2006).

An important strength of the current study is that the accelerated design of this study allowed for longitudinal analyses on development of perceived support, perceived negative interaction, and perceived power in adolescent friendships from age 12 to age 20, and thereby extends current knowledge that is based mainly on cross-sectional studies. With the use of an accelerated design two adjacent age cohorts can be linked together; by setting equality constraints for the two curves, slopes are estimated together in order to determine one common growth curve that best represents development over time (Duncan, Duncan, & Strycker, 2006). Duncan *et al.* (1999) compared a cohort that was longitudinally measured to a cohort-sequential design and found no significant differences, indicating that an accelerated design can be used to estimate a longitudinal curve and study developmental changes over time. Furthermore, the use of multivariate latent growth curve models led to more insight in linkages between the three investigated relationship characteristics.

Despite the longitudinal design, this study was nevertheless limited in that two groups of participants were assessed over five measurement waves, instead of one group that was assessed from early to late adolescence. Although well-fitting growth curves could be estimated for both age groups together, in future research a longitudinal design that follows the same adolescents over the entire age period of adolescence would be preferable.

Another limitation was that the data were based on self-reports of adolescents and therefore describe only the adolescents' perception of the friendship. Even though relationship quality is for a large part in the 'eye of the beholder' (Branje, van Aken, & van Lieshout, 2002) and adolescents' perception of the friendship might influence friendship interactions and adolescent developmental outcomes, examining friendships from preadolescence onwards and using observations or multi-informant questionnaires could give more information on development in these relationships.

In addition, the study is limited in that the included friendships might be mutual or non-mutual friendships, and reciprocity of these friendships was not taken into account. It might be

important to include only mutual friendships in future research, since qualitative features of reciprocal and non-reciprocal friendships could differ (Bukowski & Hoza, 1989; Bukowski, Hoza, & Boivin, 1993).

Furthermore, friendship stability was not taken into account either in this study, so the results are based on both stable and non-stable friendships. Stable friendships have been found to be more satisfying, more similar, and with higher levels of commitment and relationship quality than non-stable friendships (Branje, Frijns, Finkenauer, Engels, & Meeus, 2007; Kiesner, Nicotra, & Notari, 2005; Newcomb, Bukowski, & Bagwell, 1999). Future research could distinguish between stable and non-stable friends in order to see whether adolescents with stable and non-stable friendships differ regarding development of relationship quality.

Another point worth mentioning is that a minority of the participants selected cross-sex friendships in one or more waves. Same-sex and cross-sex friendships are found to differ on several features (Kuttler, La Greca & Prinstein, 1999; McDougall & Hymel, 2007). Since for a given participant, some waves of assessment were based on a same-sex friendship and other waves on a cross-sex friendship, the estimated growth curves were based on these two types of friendships.

All in all, this study shows the importance of investigating friendship quality over time. However, it would be interesting to include in future research other personal and relational variables that could have an effect on development patterns. For example, personality type during childhood and interactions in relationships with parents were found to be related to adolescent friendships (Hart, Hofmann, Edelstein, & Keller, 1997; Furman, Simon, Shaffer, and Bouchev, 2002). Including these kind of factors in future research could further illuminate interindividual differences with respect to developmental changes in adolescent friendships.

3.4.4 Conclusions

Taken as a whole, our study provides three conclusions. Firstly, adolescent friendships develop towards more reciprocal, positive, and intimate relationships during adolescence. Secondly, adolescent friendships differ for boys and girls regarding power issues, that is, power is more important in friendships of boys and powerful friends are perceived as supportive by boys but not by girls. Thirdly, friendships of boys showed a lagged development compared to friendships of girls. For instance, girls developed towards more equality in their friendships at an earlier age compared to boys. Also, for girls support and negative interaction were related from the start, whereas for boys the relation between initial support and development of negative interaction over time was found to be significant. When initial support in friendships of boys was higher, negative interaction decreased faster than in less supportive friendships. Since girls showed higher initial levels of support and lower initial levels of negative interaction compared to boys, it seems that boys, who have higher, more girl-like initial levels of support in their friendships, also become more equal on other friendship characteristics like negative interaction.

CHAPTER 4

Linkages over time between adolescent relationships with parents and friends³

³ De Goede, I. H. A., Branje, S. J. T., Delsing, M. J. M. H., & Meeus, W. H. J. (2009). Linkages over time between adolescent relationships with parents and friends. *Journal of Youth and Adolescence*, 38, 1304-1315.

4 Linkages over time between adolescent relationships with parents and friends

This 5-wave longitudinal study examines linkages over time between adolescents' perceptions of relationships with parents and friends with respect to support, negative interaction, and power. A total of 575 early adolescents (54.1% boys) and 337 middle adolescents (43.3% boys) participated. Path analyses mainly showed bidirectional associations between adolescents' perceptions of parent-adolescent relationships and friendships with a predominantly stronger influence from parent-adolescent relationships to friendships than vice versa in early to middle adolescence and an equal mutual influence in middle to late adolescence. The findings support the theoretical ideas that perceptions of relationships with parents generalize to perceptions of relationships with friends and that relationship skills and principles of adolescent friendships generalize to relationships with parents. Furthermore, the results indicate that the influence of parents decreases, whereas the influence of friends increases, and that both social worlds become equally important and overlapping towards late adolescence.

4.1 Introduction

Due to psychosocial and cognitive development, relationships with parents and friends are considerably different in adolescence compared to childhood (Collins & Repinski, 1994) and continue to change throughout the teenage years (Furman & Buhrmester, 1992). Parent-adolescent relationships gradually become more equal (De Goede, Branje, & Meeus, 2009b; Russell, Pettit, & Mize, 1998; Youniss & Smollar, 1985) and less conflictual (De Goede et al., 2009b; Furman & Buhrmester, 1992) as adolescents become increasingly autonomous and individuated from their parents (Blos, 1979; Grotevant & Cooper, 1986) and spend less time with parents (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996). In the meantime, adolescent friendships become increasingly close and supportive (De Goede, Branje, & Meeus, 2009a; Furman & Buhrmester, 1992; Helsen, Vollebergh, & Meeus, 2000; Rubin, Bukowski, & Parker, 2006; Shulman, Laursen, Kalman, & Karpovsky, 1997) and adolescents spend more and more time with their peers (Larson, et al., 1996). Thus, the focus of adolescents gradually shifts from the family to peers (Brown, 2004; Laursen & Bukowski, 1997). Several theories assume that the development of parent-adolescent relationships and friendships is associated (e.g., organizational system perspective, Laursen & Bukowski, 1997; attachment theory, Schneider, Atkinson, & Tardiff, 2001). In this study, we investigate whether parent-adolescent relationships and friendships are related and whether these relationships predict each other over time.

Different theoretical perspectives suggest a link between relationships with parents and relationships with peers. Firstly, attachment theory assumes that adolescents have formed mental representations based on experiences in the relationships with their parents and that they will use these relationship models to understand and construct their relationships with friends (Bowlby, 1969; Furman, Simon, Shaffer, & Bouchey, 2002). Secondly, according to social learning theory (Bandura, 1977), adolescents' relationships with parents might affect other social relationships like friendships through a process of modeling and imitation. Thirdly, the social interactional perspective (Burks & Parke, 1996; Parke & Buriel, 2006) suggests that children learn cognitive representations of social relationships through their relationships with parents. Parental cognitive representations are found to be linked to adolescents' cognitive representations and adolescents' social competence (McDowell, Parke, & Spitzer, 2002). In this way, cognitive models are supposed to generalize from parent-adolescent relationships to adolescent friendships (Parke & Buriel, 2006). Finally, family systems theory suggests that families are hierarchically arranged and that adolescent behavior is therefore influenced by parents' behavior (Erel & Burman, 1995). Furthermore, it is proposed that parent-child interaction is one way in which parents can influence peer competence (Parke, Burks, Carson, Neville, & Boyum, 1994). In sum, different perspectives predict that relationships with parents might influence relationships with friends.

In contrast, an effect from adolescent friendships to parent-adolescent relationships could be expected based on differences between parent-adolescent relationships and friendships. For adolescents, parent-child relationships are involuntary, hierarchical, and constrained by kinship, whereas friendships are voluntary, symmetrical, and more easily dissolved (Hartup, 1989; Laursen, 1996; Laursen & Bukowski, 1997; Laursen & Collins, 1994; Youniss & Smoller, 1985). Consequently, different relationship principles are involved. In friendships, adolescents learn to interact with each other on an equal basis, which is the interaction style that they will predominantly use and need in their future adult life (Graziano, 1984; Laursen & Bukowski, 1997). The horizontal nature of friendships is particularly suited to learn and practice this egalitarian and symmetrical style, and will become better understood in friendships during the adolescent years. This gives rise to the prediction that the relationship skills learned in friendships are later generalized to other relationships like parent-adolescent relationships, and thus an effect from adolescent friendships to parent-adolescent relationships is expected.

It is probable that the linkages between parent-adolescent relationships and adolescent friendships change over time due to adolescent development. Since parent-adolescent relationships become more equitable over time (McGue, Elkins, Walden, & Iacono, 2005; Russell, Pettit, Mize, 1998) and adolescents become increasingly autonomous (Blos, 1979; Grotevant & Cooper, 1986), it might be argued that the influence of parent-adolescent relationships on adolescent friendships diminishes as adolescents grow older. Because closeness and interdependence in friendships increase (Selman, 1981; Shulman, Laursen, Kalman, & Karpovsky, 1997), adolescent friendships are likely to become more salient and influencing over time. It is therefore to be expected that the influence of friendships on parent-adolescent relationships increases with age.

The focus of this study lies on the perception of adolescents regarding support, negative interaction, and power, which are key dimensions in many theories on close relationships. Although different researchers have distinguished various aspects of relationship quality (Berndt, 2002; Bukowski, Hoza, & Boivin, 1994; Furman & Buhrmester, 1985; Furman, 1996; Parker & Asher, 1993), all distinctions include aspects of closeness, intimacy, and support on the one hand, and negative interaction or conflict on the other hand. For example, attachment theory emphasizes support from parents as a secure basis to form new relationships (Collins & Laursen, 2004a) and assumes that a need for support stimulates friendships (Bowlby, 1969; Rubin, Bukowski, & Parker, 2006). In addition, psychoanalytic theory and Sullivan's developmental model of interpersonal relationships emphasize that friends become increasingly important as providers of support, whereas parents become relatively less important sources of support (Blos, 1967; Rubin, Bukowski, & Parker, 2006; Sullivan, 1953). The role of negative interaction is stressed by the social relational perspective, which states that negative interaction is fundamental in close relationships, resulting from the need to integrate different objectives and expectations (Laursen & Collins, 1994). In addition, several theories emphasize that equality and interdependence are important characteristics of close relationships. Sullivan's developmental model of interpersonal relationships hypothesizes that egalitarian relationships stimulate adolescent well-being and self-validation (Rubin, Bukowski, & Parker, 2006; Sullivan, 1953). Similarly, interdependence models and the social relational perspective highlight the balance of power, with mutual influences, reciprocity, and perception of equality as the main characteristic of close relationships (Collins & Laursen, 2004a; Laursen, 1996).

Because of the importance of support, negative interaction, and power in theories of adolescent development, we chose to address these three different dimensions in our study. Due to the large variety of concepts in this field, we will describe both empirical research about support, negative interaction, and power in parent-adolescent relationships and adolescent friendships, as well as empirical research about related relationship dimensions.

For support and related relationship dimensions, positive correlations have been found between relationships with parents and friends. Studies showed concurrent positive correlations between parental attachment and peer attachment (Wilkinson, 2006), between parental support and friendship quality (Zimmermann, 2004), between parental attachment and friendship quality (Benson, McWey, & Ross, 2006; Zimmermann, 2004), between family connectedness and peer connectedness (Bell, Cornwell, & Bell, 1988), and between parental support and friendship or peer support (Cui, Conger, Bryant, & Elder, 2002; Furman, Simon, Schaffer, & Bouchey, 2002; Helsen, Vollebergh, & Meeus, 2000; Stice, Ragan, & Randall, 2004; Young, Berenson, Cohen, & Garcia, 2005). In addition, a meta-analysis showed a significant over-time correlation between early child-parent attachment and friendships later on in childhood and adolescence (Schneider, Atkinson, & Tardiff, 2001). Furthermore, a longitudinal study using latent growth curves also showed a positive correlation between the slope of parental support and the slope of peer support (Stice, Ragan, & Randall, 2004), indicating that changes in parental support and peer support are

related. All in all, these findings indicate that a higher level of support from parents is related to a higher level of support from friends.

Positive correlations have also been found concurrently for dimensions related to negative interaction and power. For example, affective intensity of conflict with parents and affective intensity of conflict with friends (Collins, Laursen, Mortensen, Luebker, Ferreira, 1997), parental hostile behavior and friendship hostile behavior (Cui, Conger, Bryant, & Elder, 2002), and negative interaction with parents and negative interaction with friends (Furman, Simon, Schaffer, & Bouchev, 2002) were found to be positively related. Furthermore, a positive correlation was found concurrently between the distribution of power in parent-adolescent relationships and adolescent friendships (Laursen, Wilder, Noack, & Williams, 2000). Generally speaking, these studies suggest that higher levels of negative interaction with parents are related to higher levels of negative interaction with friends. Also, power distributions are supposed to be relatively similar in adolescent relationships with parents and friends.

In sum, different theories provide contrasting suggestions about the presence and the direction of possible linkages over time between parent-adolescent relationships and adolescent friendships. Although several studies showed concurrent linkages between adolescent relationships with parents and friends, longitudinal research is necessary to investigate how these relationship developments affect each other over time. In this study, we will therefore longitudinally investigate linkages between parent-adolescent relationships and adolescent friendships.

4.1.1 Aim of the present study

We will simultaneously test expectations based on two contrasting perspectives on possible linkages over time between parent-adolescent relationships and adolescent friendships.

Based on several theoretical perspectives, we expect that relationship quality of parent-adolescent relationships influences relationship quality of adolescents' relationships with best friends over time. Based on contrasting ideas, we expect a generalization principle in which perceived relationship quality of adolescent friendships predicts perceived relationship quality of parent-adolescent relationships over time. We will refer to these perspectives as the parent effect model and the friend effect model, respectively.

Furthermore, we will investigate whether age effects occur with respect to associations between adolescents' perceptions of relationships with parents and adolescents' perceptions of friendships. We expect that the possible influence of parent-adolescent relationships on adolescent friendships diminishes as adolescents grow older, whereas adolescent friendships become more influencing on parent-adolescent relationships over time.

4.2 Method

4.2.1 Participants

Data for this study were collected as part of an ongoing longitudinal research project on CONflict And Management Of Relationships (CONAMORE; Meeus et al., 2004). The current study uses five measurement waves with a one-year interval between each of the waves for all participants. From 2001 onwards, data collection took place in the fall of each year. The longitudinal sample consists of 1313 participants. To prevent interdependence in the data, two criteria were used to select adolescents from the total sample. Firstly, when two or more target adolescents selected the same person as their best friend in a particular wave, one of these dyads was randomly selected. Secondly, when two adolescents selected each other as their best friend in a particular wave and thus formed a mutual friendship, one of the two adolescents was randomly selected to avoid interdependence in the data. This selection was conducted for every measurement wave separately and resulted in a sample of 912 unique and fully independent friendship perceptions, since each friendship in the final sample was reported on only once. The final sample included 457 boys (50.1%) and 455 girls (49.9%). Two age groups were represented: 575 early to middle adolescents (63.0%), who were on average 12.4 years of age ($SD = .60$) and 337 middle to late adolescents (37.0%), who were on average 16.7 years of age ($SD = .82$) during the first wave of assessment. The early to middle adolescent group consisted of 311 boys (54.1%) and 264 girls (45.9%). The middle to late adolescent group consisted of 146 boys (43.3%) and 191 girls (56.7%). Because both age groups were assessed during five measurement waves, a total age range from 12 to 16 and from 16 to 20 years was available. Most participants were Dutch (84.5%), and others identified themselves as part of a Dutch non-Western ethnic minority group. Most participants lived with both parents (84.0 %). The participants were in junior high and high schools at Time 1. The early and middle adolescent groups were comparable regarding ethnic group ($\chi^2(4, N = 879) = 5.6, p = .23$) and living situation with parents ($\chi^2(6, N = 886) = 9.6, p = .15$). However, there were differences regarding sex, with more boys in the early adolescent group and more girls in the middle adolescent group ($\chi^2(1, N = 912) = 9.8, p = <.01$). Only 110 (12.1%) of the participants reported on the same friendship across the five measurement waves.

There was no sample attrition from Wave 1 to Wave 2. Sample attrition was 3.95% from Wave 2 to Wave 3, .57% from Wave 3 to Wave 4, and 1.26% from Wave 4 to Wave 5. Models were estimated in Mplus with a Robust Maximum Likelihood estimation method (Satorra & Bentler, 1994), to provide better estimations of standard errors when normality assumptions are violated.

4.2.2 Procedure

The participating adolescents were recruited from various high schools in the province of Utrecht, the Netherlands. Participants received an invitation letter, describing the research project and

goals and explaining the possibility to decline from participation. Both parents and adolescents provided informed consent. More than 99% of the approached high school students decided to participate. The participants completed the questionnaires at their own high school or at home, during annual assessments. Confidentiality of responses was guaranteed. Verbal and written instructions were offered. The adolescents received €10 as a reward for every wave they participated in. Participants answered the questionnaires about their relationship with their mother, their father, and their best friend separately. For the questionnaire on friendship quality, participants were asked to identify their best friend and answer the items while thinking about the relationship with this best friend. It was not possible to select a romantic partner as their best friend. Participants were not restricted to select a same-age, same-school, or same-gender friend.

4.2.3 Measures

Support. The support scale measures the amount of support from mothers, fathers, and best friends separately as perceived by adolescents. Support was assessed using the short version of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992). The support scale consists of twelve items, including items from different subscales like companionship, instrumental aid, intimacy, nurturance, affection, admiration, and reliable alliance. Answers were indicated on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Examples of items are: “Does your mother like or approve of the things you do?” and “How much does your best friend really care about you?”

Negative interaction. The negative interaction scale assesses the intensity of negative interaction in adolescent relationships according to the perceptions of adolescents for relationships with their mothers, fathers, and best friends separately. Negative interaction was assessed by combining the conflict and antagonism subscales of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992), which is the original short form to assess negative interaction. The negative interaction scale consists of six items. The participants indicated their answers on a five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Examples of items are: “Do you and your father get on each other’s nerves?” and “How much do you and your best friend get upset with or mad at each other?”

Power. The power scale measures the amount of power the adolescents attributed to their parents and friends, for relationships with their mothers, fathers, and best friends separately. Power was assessed by combining the relative power and the dominance subscales of the Network of Relationships Inventory (Furman & Buhrmester, 1985, 1992). Since the power items and dominance items are formulated in the same way, they all measure the adolescents’ perception about the extent in which the other person in the relationship is relatively powerful in the relationship. In this way, the items contrast dominance of the partner with either equality or dominance of the reporter. The power scale consists of six items. Answers were given based on a

five-point Likert scale (ranging from 1 = *a little or not at all* to 5 = *more is not possible*). Low scores on the power scale show that adolescents do not see the person they are reporting about as more powerful, leaving open the possibility that the adolescent is more powerful than the other person as well as the possibility that the relationship is more egalitarian. High scores indicate that adolescents perceive the person they are reporting about as more powerful and feel their relationship is less equal. Examples of items are: “How often does your mother tell you what to do?” and “To what extent is your best friend the boss in your relationship?”

Reliability and validity of the NRI. Three different explorative factor analyses were conducted on the NRI items, one for relationships with mothers, one for relationships with fathers, and one for relationships with friends (see Table 4.1). The results showed factor loadings above .40 for three factors and no cross-loadings higher than .22. Internal consistencies were high for all variables (see Table 4.1). The factor and construct validity of the NRI are adequate (Edens, Cavell, & Hughes, 1999).

Table 4.1 Overview of minimum factor loadings and alpha ranges for all variables

	Factor loadings			Alpha range
	1	2	3	
Mother				
Support	>.48	<.19	<.11	.88 - .91
Negative interaction	<.06	>.70	<.06	.87 - .92
Power	<.03	<.18	>.56	.82 - .88
Father				
Support	>.41	<.16	<.15	.91 - .92
Negative interaction	<.06	>.69	<.11	.89 - .92
Power	<.13	<.16	>.60	.87 - .91
Friend				
Support	>.47	<.12	<.22	.92 - .93
Negative interaction	<.05	>.57	<.07	.82 - .87
Power	<.23	<.05	>.45	.82 - .86

4.3 Results

4.3.1 Plan of analysis

To examine the cross-effects between adolescents’ perceptions of the quality of their relationships with parents and friends over time, we conducted path analyses with cross-lagged effects by means of structural equation modeling. We tested the path models for each relationship dimension (support, negative interaction, and power) separately, using a two-group design to investigate differences between the two age groups. Within each model, the two observed scale scores for relationships with mothers and relationships with fathers together formed a latent variable representing adolescents’ relationships with parents. We established factorial invariance by fixing

the factor loadings of the scale scores of relationships with fathers on the latent variable to be equal across waves. The factor loadings of the scale scores of relationships with mothers on the latent variable were constrained to 1 to scale the factor. In each model, friendships were represented by an observed variable, which is the scale score on the appropriate relationship dimension.

Model comparisons within each relationship dimension separately showed that higher order autoregressive paths were needed for each age group in both parent-adolescent relationships and adolescent friendships and these paths were therefore included in the model. We allowed errors for corresponding scores on relationships with mothers and fathers separately to correlate over the measurement waves, in order to reduce reporter bias. This was not necessary with respect to the errors for the scores on friendships.

Within each age group, for the sake of parsimony, we tested whether it was possible to fix the stability paths between adjacent waves, the concurrent correlations indicating correlated change (Wave 2 to Wave 5), and the cross-lagged paths from parents to friends (Wave 1 parents to Wave 2 friends equals Wave 2 parents to Wave 3 friends etcetera), from friends to parents (Wave 1 friends to Wave 2 parents equals Wave 2 parents to Wave 3 friends etcetera). We also tested whether it was possible to fix all cross-lagged paths in both directions to be equal. Using chi-square difference tests, we determined which parameter constraints could be made without significantly impairing the model fit (Kline, 2005). The models were adjusted accordingly. Table 4.2 lists the parameters that could be constrained within cohorts without significantly reducing the model fit (see columns 1 and 2 for each relationship dimension).

Next, to examine cohort effects, we tested whether it was possible to fix the different paths to be equal across the two age groups within each relationship dimension. We stepwise tested whether it was possible to fix the variances and correlation at the first measurement wave, the stability paths between adjacent waves, the concurrent correlations indicating correlated change (Wave 2 to Wave 5), and the cross-lagged paths from parents to friends (Wave 1 parents to Wave 2 friends equals Wave 2 parents to Wave 3 friends etcetera), from friends to parents (Wave 1 friends to Wave 2 parents equals Wave 2 parents to Wave 3 friends etcetera), and all cross-lagged paths in both directions, to be equal across the two age groups. Again using chi-square difference tests, we determined which parameter constraints could be made without significantly impairing the model fit and the models were adjusted accordingly. Table 4.2 lists the parameters that could be constrained without significantly reducing the model fit. Table 4.3 shows the model comparison tests and the model fit indices of different models. Results and fit indices of the best fitting models of these series of analyses are displayed in Figures 4.1 to 4.6.

4.3.2 Over-time linkages between perceived support from parents and friends

In both age cohorts, we found that adolescents' perceptions of support from parents and friends were positively associated at Time 1. Furthermore, support from parents systematically predicted support from friends. These cross-lagged effects could be constrained within but not across

Table 4.2 Overview of parameters that could be constrained without significantly reducing the model fit

Parameters	Constraints									
	Support		Negative interaction				Power			
	Cohort 1	Cohort 2	Across cohorts	Cohort 1	Cohort 2	Across cohorts	Cohort 1	Cohort 2	Across cohorts	Across cohorts
Initial correlation (T1)			x			x				x
Stability paths (adjacent waves)										
Parents	x	x	x	x	x	x	x	x	x	x
Friends	x			x	x	x	x	x		
Correlated change (T2-T5)	x	x	x	x	x	x	x	x	x	x
Initial variances										
Parents			x							x
Friends						x				x
Cross-lagged paths										
Parents → friends	x	x		x	x	x	x	x	x	x
Friends → Parents	x	x	x		x		x	x	x	x
P → f = f → p		x		x	x		x	x	x	x

Note. x these paths were constrained to be similar, cohort 1 = early to middle adolescence, cohort 2 = middle to late adolescence

p = parents, f = friends, T2-T5 = from Wave 2 to Wave 5

Table 4.3 Model fit indices and model comparison tests for support, negative interaction and power

	Model fit indices					Model comparison tests			
	MLR χ^2	Df	SCF ¹	CFI	TLI	RMSEA	SBdiff ²	Δ df	p
Support									
1. Start model: autoregression paths and error correlations included	105.987	98	1.224	0.998	0.996	0.013			
2. After stepwise fixation of stability, concurrent, and cross-lagged paths within age groups	128.718	125	1.297	0.999	0.999	0.008	1 vs. 2	14.553	27 0.975
3. After stepwise fixation of mutual cross-lagged paths ($p \rightarrow f = f \rightarrow p$) within age groups	132.357	126	1.295	0.999	0.998	0.011	2 vs. 3	3.482	1 0.062
4. After stepwise fixation across two age groups	143.491	131	1.309	0.997	0.996	0.014	3 vs. 4	6.700	5 0.244
Negative Interaction									
1. Start model: autoregression paths and error correlations included	98.117	98	1.171	1.000	1.000	0.002			
2. After stepwise fixation of stability, concurrent, and cross-lagged paths within age groups	122.263	125	1.271	1.000	1.002	0.000	1 vs. 2	14.778	27 0.972
3. After stepwise fixation of mutual cross-lagged paths ($p \rightarrow f = f \rightarrow p$) within age groups	123.295	126	1.273	1.000	1.002	0.000	2 vs. 3	0.678	1 0.410
4. After stepwise fixation across two age groups	134.954	132	1.302	0.999	0.998	0.007	3 vs. 4	6.101	6 0.412
Power									
1. Start model: autoregression paths and error correlations included	125.902	122	1.251	0.999	0.998	0.008			
2. After stepwise fixation of stability, concurrent, and cross-lagged paths within age groups	159.225	149	1.259	0.997	0.996	0.012	1 vs. 2	25.729	27 0.534
3. After stepwise fixation of mutual cross-lagged paths ($p \rightarrow f = f \rightarrow p$) within age groups	171.312	153	1.262	0.995	0.994	0.016	2 vs. 3	8.799	4 0.066
4. After stepwise fixation across two age groups	179.259	160	1.274	0.995	0.994	0.016	3 vs. 4	5.173	7 0.639

Note. ¹ Scaling Correction Factor (Satorra & Bentler, 2001)

² Adjusted $\Delta\chi^2$ according to Satorra-Bentler's (SB) scaling corrections (Satorra & Bentler, 2001)

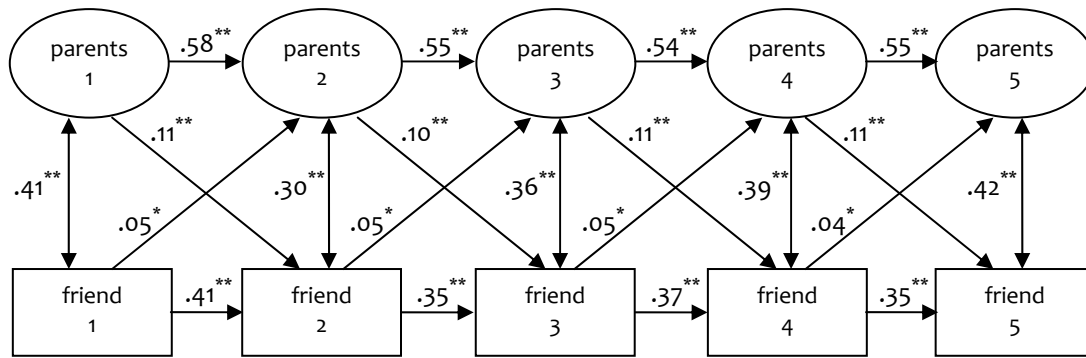


Figure 4.1 Linkages between support from parents and friends in early to middle adolescence

Note.

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

$\chi^2=143.5$, $df=131$, $CFI=1.00$, $RMSEA=0.01$

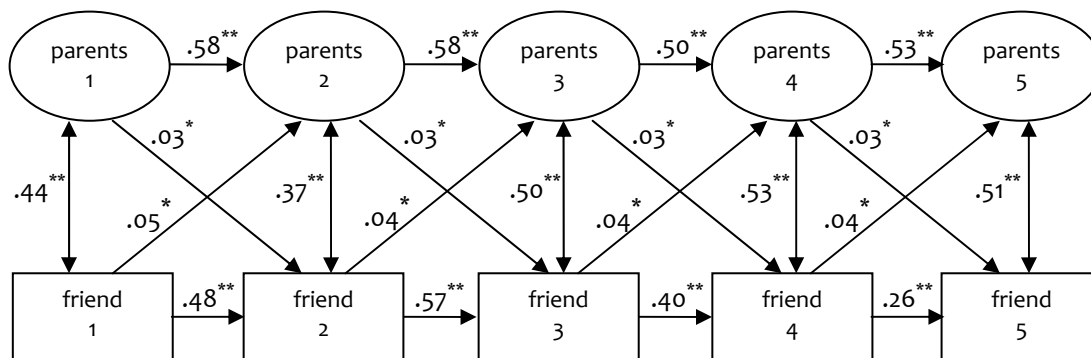


Figure 4.2 Linkages between support from parents and friends in middle to late adolescence

Note.

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

$\chi^2=143.5$, $df=131$, $CFI=1.00$, $RMSEA=0.01$

cohorts, indicating a stronger effect in early to middle adolescence than in middle to late adolescence. Also, support from friends systematically predicted support from parents. These cross-lagged effects from friendships to parent-adolescent relationships could be constrained both within and across cohorts, indicating that these effects were of the same strength in the early to middle adolescence cohort as in the middle to late adolescence cohort. This finding shows that the influence of friend support on parental support remains constant in early to late adolescence, whereas the influence of parental support on friend support is stronger in early to middle adolescence compared to middle to late adolescence. In the early to middle adolescence cohort the effects from parental support to friend support were stronger than vice versa (see Figure 4.1). The

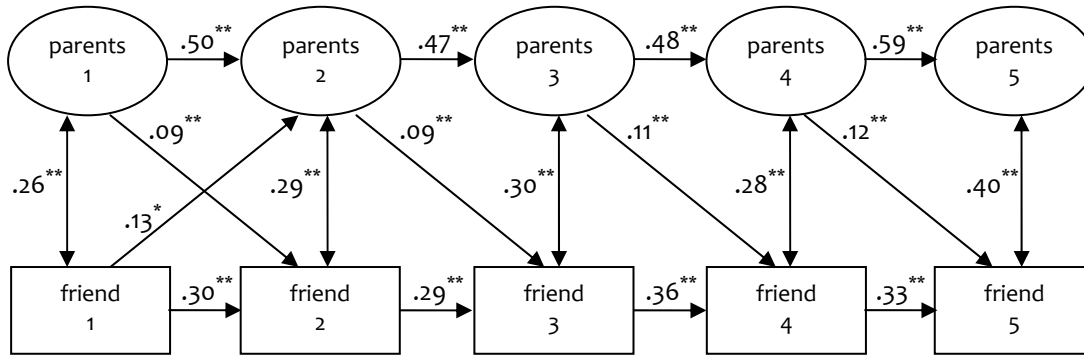


Figure 4.3 Linkages between negative interaction with parents and friends in early to middle adolescence

Note.

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

$\chi^2=134.95$, $df=132$, $CFI=1.00$, $RMSEA=0.01$

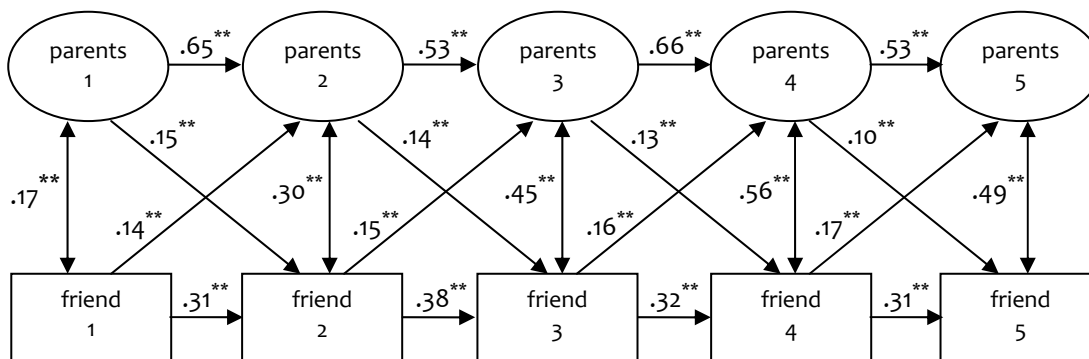


Figure 4.4 Linkages between negative interaction with parents and friends in middle to late adolescence

Note.

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

$\chi^2=134.95$, $df=132$, $CFI=1.00$, $RMSEA=0.01$

effects from parents to friends and vice versa could be constrained in middle to late adolescence, indicating that these effects were of similar strength (see Figure 4.2).

4.3.3 Over-time linkages between negative interaction with parents and friends

Adolescents' perceptions of negative interaction with parents and negative interaction with friends were positively associated at Time 1. Also, we found in both age cohorts a significant effect of adolescents' perceptions of negative interaction with parents to adolescents' perceptions of

negative interaction with friends. These cross-lagged effects could be constrained both within and across cohorts, indicating that they were of the same strength in both age cohorts. With respect to effects of friends' negative interaction on parent-adolescent negative interaction, we only found consistent significant paths in the middle to late adolescence cohort. In the early to middle adolescence age cohort, the effect of friends' negative interaction on parent-adolescent negative interaction was only significant from the first to the second measurement wave, when adolescents were 12 and 13 years of age (see Figure 4.3). The significant bidirectional effects between adolescents' perceptions of negative interaction with parents and friends in middle to late adolescence could be constrained within this cohort, indicating that these effects were of similar strength in both directions (see Figure 4.4) and that the influence of parents and friends was equally strong. In sum, these findings show a consistent influence of negative interaction with parents to negative interaction with friends and a stronger influence from negative interaction with friends to negative interaction with parents in middle to late adolescence as compared to early to middle adolescence.

4.3.4 Over-time linkages between power of parents and friends

Adolescents' perceptions of power of parents and power of friends were positively associated at Time 1. Furthermore, we found in both the early to middle adolescence group and the middle to late adolescence group that adolescents' perceptions of parental power predicted friends' power and vice versa. The cross-lagged effects from parents to friends and the effects from friends to parents could be constrained both within and across cohorts, indicating that these effects were of equal strength and were also similar across age cohorts (see Figures 4.5 and 4.6). So all in all, these findings show a consistent bidirectional influence of similar strength between parental power and friends' power throughout adolescence (see Figures 4.5 and 4.6) showing both a parent effect and a friend effect.

4.4 Discussion

This study addressed linkages over time between adolescents' perceptions of relationship quality in relationships with parents and in relationships with friends. The relationship characteristics support, negative interaction, and power were assessed in a 5-wave longitudinal study of early to middle (ages 12 to 16) and middle to late adolescence (ages 16 to 20). These longitudinal data allowed us to test whether adolescents' perceptions of relationships with parents and friends are related and to establish the direction of effects between these types of relationships. In this study, we aimed to test expectations based on two contrasting perspectives: the parent effect model, which suggested an effect from parent-adolescent relationships to adolescent friendships, and the friend effect model, which proposed an effect from adolescent friendships to parent-adolescent

relationships. Overall, the results indicated a bidirectional association between parent-adolescent relationships and friendships with a stronger influence from parent-adolescent relationships to friendships than vice versa in early to middle adolescence and an equal mutual influence in middle to late adolescence. Thus, support for both the parent effect model and the friend effect model was found.

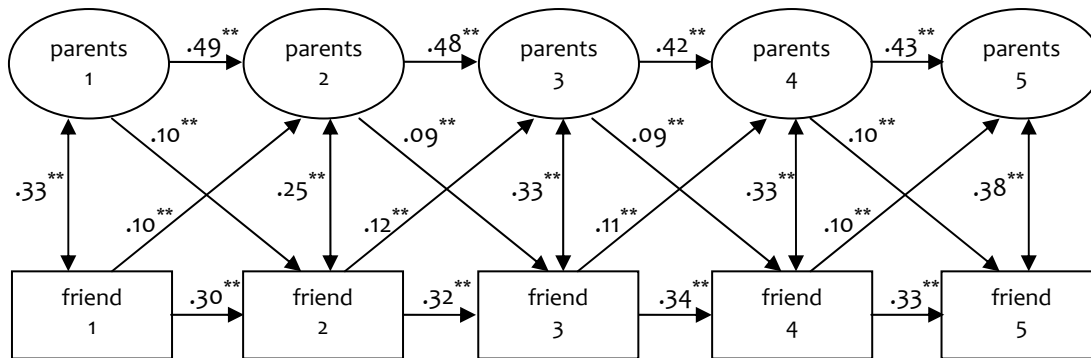


Figure 4.5 Linkages between power of parents and friends in early to middle adolescence

Note.

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

$\chi^2=179.259$, $df=160$, $CFI=1.00$, $RMSEA=0.02$

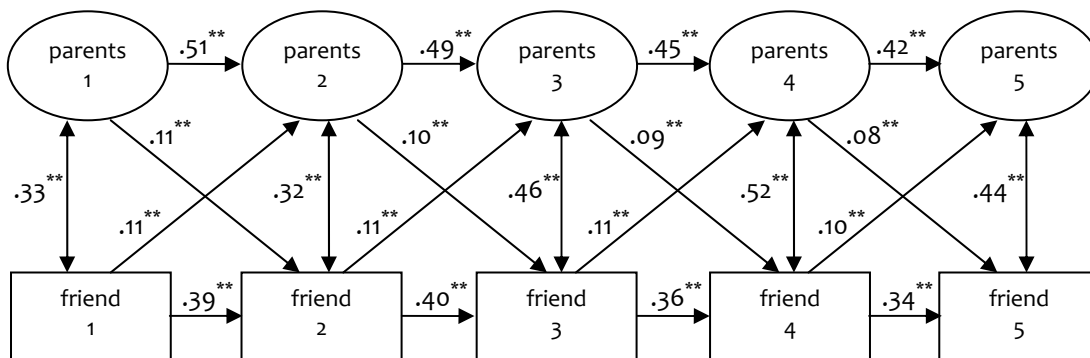


Figure 4.6 Linkages between power of parents and friends in middle to late adolescence

Note.

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

$\chi^2=179.259$, $df=160$, $CFI=1.00$, $RMSEA=0.02$

4.4.1 Over-time linkages between relationships with parents and friends

Our results systematically showed that perceptions of adolescents about their relationships with parents and friends were positively associated at the age of twelve as well as at the age of sixteen. Thus, when adolescents perceived their parents as more supportive, they also perceived their

friends as more supportive. The same was true regarding negative interaction and power. These findings indicate an overlap between how interactions are experienced in different social worlds, that is, regarding closed relationships within the family and regarding open relationships within the peer group (Laursen & Bukowski, 1997). These positive associations between adolescents' perceptions of relationships with parents and friends were also found longitudinally, indicating that adolescents' perceptions of relationships with parents and friends change in the same direction.

The consistent significant influence from relationships with parents to relationships with friends confirmed a parent effect model suggesting that perceptions of relationships with parents generalize to friendships (Schneider, Atkinson & Tardiff, 2001). In the same manner, a consistent significant influence from adolescents' perceptions of relationships with friends to relationships with parents (except regarding negative interaction from early to middle adolescence) supported the friend effect model, as based on the differences between parent-adolescent relationships and friendships (Laursen & Collins, 1994). These latter findings suggest a generalization from relationship skills and principles of adolescent friendships to relationships with parents. Overall, the bidirectional associations indicate that parent-child relationships and friendships mutually influence each other during adolescence.

We found that the influence of parents decreased with age regarding support, whereas the influence of friends increased with age regarding negative interaction. For support and negative interaction in early to middle adolescence, the data supported the parent effect model more than the friend effect model, whereas both models were equally strong in middle to late adolescence. These findings confirm the notion that parents become less important in the lives of adolescents. Also consistent with the idea that parents become less important in the lives of adolescents were the diminishing effects across cohorts from parents to friends regarding support. Moreover, the increasing effects across cohorts from friends to parents regarding negative interaction confirm the idea that friends become more important in the lives of adolescents as they grow older (Brown, 2004; Larson, et al., 1996; Laursen & Bukowski, 1997). This decreasing influence from parents and the increasing influence from friends might, however, be domain-specific since these effects were only found regarding support and negative interaction respectively.

Finally, we found that the mutual influence between adolescents' perceptions of parent-adolescent relationships and adolescent friendships was of equal strength in middle to late adolescence, indicating that from middle adolescence onwards there is equal support for both the parent effect model and the friend effect model. These findings show that both social worlds become equally important and overlapping towards late adolescence.

Possible explanations for these results can be found in cognitive and psychosocial development. Due to improving socio-cognitive skills of adolescents, equal relationships become more salient during adolescence. Regarding parent-child relationships, adolescents become more independent from their parents and gain more autonomy (Blos, 1979; Zimmer-Gembeck & Collins, 2003). As a result, parent-adolescent relationships become more equally balanced with respect to power (De Goede, Branje, & Meeus, 2009b; Furman & Buhrmester, 1992) and parents

start to have less influence on the lives of their adolescent child. Whereas the influence of parents diminishes, the influence of friends gains in importance. Adolescents become more able to take each others' perspectives into account (Selman, 1980) and, as a result, friendships become more balanced and influencing. Since friendships form the first true type of egalitarian relationships, adolescents mainly practice relationship principles of equality in friendships, which is important for the formation and continuation of relationships in their future adult life (Graziano, 1984; Laursen & Bukowski, 1997). Thus, relationship skills learned in egalitarian and symmetrical friendships become more salient during the adolescent years and generalize to other relationships.

4.4.2 Strengths and limitations

The current study has several important strengths. To start with, the design allowed for longitudinal analyses on the associations between parent-adolescent relationships and adolescent friendships with respect to perceived parental support, perceived conflict with parents, and perceived parental power in parent-adolescent relationships, thereby extending current knowledge based mainly on cross-sectional studies. The possible associations were examined in two age groups from early to middle adolescence and from middle to late adolescence, thanks to the availability of a total age range from 12 to 16 and from 16 to 20 years. In this way, our study makes a relevant contribution to the current knowledge on adolescent relationships over time.

The current study also has several limitations. Despite the longitudinal design, this study was nevertheless limited in that two groups of participants were assessed over five measurement waves, instead of one group that was assessed from early to late adolescence. In future research a longitudinal design that covers the entire age period of adolescence would be preferable.

Another limitation was that the data were based on self-reports of adolescents and therefore only describe adolescents' perceptions of relationships with parents and friends. This is specifically problematic considering that different informants often report different perceptions (Renk, Donnelly, Klein, Oliveros, & Baksh, 2008; Vierhaus & Lohaus, 2008). On the other hand, it has been frequently found that adolescents more accurately report about their relationships than, for example, parents with respect to unpleasant aspects and that adolescents' perceptions regarding conflict are more likely to match reports from independent observers (Collins & Laursen, 2004a). Furthermore, relationship quality is for a large part in the "eye of the beholder" (Branje, van Aken, & van Lieshout, 2002) and adolescents' perceptions of their relationships might influence interactions and adolescent developmental outcomes. Nevertheless, using observations or multi-informant questionnaires could give more information on development in these relationships.

Furthermore, friendship stability was not taken into account in this study, so the results are based on both stable and non-stable friendships. Stable friendships have been found to be more satisfying and with higher levels of commitment and relationship quality than non-stable friendships (Branje, Frijns, Finkenauer, Engels, & Meeus, 2007; Kiesner, Nicotra, & Notari, 2005; Newcomb, Bukowski, & Bagwell, 1999). Possibly, these long lasting friendships could

have a stronger influence on parent-adolescent relationships than short-lived friendships. Also, parent-child relationships might have a larger influence on longer lasting friendships compared to shorter friendships. Future research could distinguish between stable and non-stable friends in order to see whether adolescents with stable and non-stable friendships differ regarding linkages between parent-child relationships and friendships.

Lastly, we did not include adolescents' gender in this study, since we had no reason to expect that adolescent boys and girls would differ on the relationship dynamics being considered in this research. However, it might be possible that for girls influences between the different relationships are stronger, due to the higher intensity of these relationships. Including gender in future research could indicate whether or not this is the case.

4.4.3 Conclusions

All in all, our results showed that relationship characteristics in adolescent relationships with parents and friends are mainly bidirectionally associated over time with a stronger influence from parent-adolescent relationships to friendships than vice versa in early to middle adolescence and an equal mutual influence in middle to late adolescence. Several points are relevant to highlight. (1) Perceptions of adolescents about their relationships with parents and friends were positively associated, indicating overlap between how interactions are experienced in different social worlds. (2) The significant influence from relationships with parents to relationships with friends confirmed a parent effect model, suggesting that perceptions of relationships with parents generalize to friendships. (3) In the same manner, the significant influence from relationships with friends to relationships with parents validated a friend effect model, suggesting a generalization from relationship skills and principles of adolescent friendships to relationships with parents. (4) The influence of parents decreased, confirming the idea that parents become less important in the lives of adolescents. (5) The influence of friends increased, confirming the idea that friends become more important in the lives of adolescents. (6) The mutual influence between parent-adolescent relationships and adolescent friendships was of equal strength in middle to late adolescence, indicating that both social worlds become equally important and overlapping towards late adolescence. Overall, the findings of this study show that parent-adolescent relationships and adolescent friendships are mutually linked. Even though the general influence from parents to friends is stronger than vice versa in early to middle adolescence, the mutual influence between adolescent relationships with parents and friends becomes equally strong from middle adolescence onwards.

CHAPTER 5

Romantic relationship commitment and its linkages with commitment to parents and friends during adolescence⁴

⁴ De Goede, I. H. A., van Duin, J., van der Valk, I. E., Branje, S. J. T., & Meeus, W. H. J. (2009). Romantic relationship commitment and its linkages with commitment to parents and friends during adolescence. *Manuscript submitted for publication.*

5 Romantic relationship commitment and its linkages with commitment to parents and friends during adolescence

This 5-wave longitudinal study examines linkages between adolescents' perceptions of romantic relationship commitment and the development of adolescents' perceptions of commitment to parents and friends. A total of 218 early to middle adolescents (39.0% boys) and 185 middle to late adolescents (30.8% boys) participated. Multivariate growth curve analyses showed that higher base levels of commitment and a stronger positive development of commitment to both parents and friends were associated with higher levels of later commitment to romantic partners. The effects were found to be equally strong in early to middle adolescence and middle to late adolescence. Also, commitment to parents and commitment to friends were equally strong associated to romantic relationship commitment. No gender differences were found with respect to these linkages. Overall, this study shows the importance of both parents and friends for both boys and girls regarding committed romantic relationships. Also, the results support the idea of one stable and general working model used in different types of relationships.

5.1 Introduction

During adolescence, the formation of romantic relationships and the development of commitment and intimacy towards a romantic partner are among the most important developmental tasks (Bouchey & Furman, 2003; Erikson, 1968). Since romantic involvements are supposed to form a source of support and positive emotions, they generally are of importance to adolescent development (Bouchey & Furman, 2003; Furman, 2002; Meeus, Branje, van der Valk & de Wied, 2007).

Characteristics of relationships with parents, like reliable alliance, parental support, perceived autonomy, and relatedness are associated to characteristics of romantic relationships, like social support, satisfaction with support, connectedness, attraction, and relational commitment in late adolescence and young adulthood (Meeus et al., 2007; Scharf & Mayselless, 2001; Seiffge-Krenke, Shulman, & Klessinger, 2001). The same accounts for associations between adolescent friendships and romantic relationships: Friendship characteristics, like intimacy and reliable alliance are related to romantic relationship characteristics, like connectedness, attraction, and painful love in late adolescence (Seiffge-Krenke, Shulman, & Klessinger, 2001). It is therefore important to longitudinally investigate associations between relationship quality in these

relationships in order to distinguish precursors of committed romantic relationships. In this study, we longitudinally examine associations between romantic relationship commitment and commitment to parents and friends during adolescence.

5.1.1 Associations between relationship quality with parents and romantic partners

Several theories are relevant when considering associations between parent-adolescent relationships and romantic relationships. According to attachment theory (Bowlby, 1969), commitment to parents should be positively associated to romantic relationship commitment. Young children construct working models of attachment based on the relationships with their parents (Furman, Simon, Shaffer, & Bouchee, 2002). Working models are mental representations of the self, attachment figures, and relationships (Ainsworth & Bowlby, 1991; Buist, Deković, Meeus, & van Aken, 2004; Sroufe, Egeland, & Carlson, 1999), which are assumed to be relatively stable over time, and adolescents will use these relationship models to understand and construct their relationships with romantic partners (Furman, Simon, Shaffer, & Bouchee, 2002; Hazan & Shaver, 1987). Thus, working models based on parent-adolescent relationships will tend to generalize to later romantic relationships (Schneider, Atkinson & Tardiff, 2001) and perceptions of parent-adolescent relationships will predict perceptions of romantic relationships.

Based on social learning theory (Bandura, 1977) and the similarity between different types of egalitarian relationships, it can be expected that the increasingly egalitarian parent-adolescent relationships serves as a model for romantic relationships (Meeus et al., 2007). In relationships with parents, adolescents learn to interact with each other on an equal basis, which is the interaction style that they will predominantly use and need in their future adult life (Graziano, 1984; Laursen & Bukowski, 1997). This egalitarian and symmetrical style will become more salient during the adolescent years, giving rise to the prediction that the relationship skills learned in parent-adolescent relationships will later generalize to romantic relationships in a process of socialization (e.g. Gauvain, 2001). Romantic relationships become more salient and gain more psychological value (Nieder & Seiffge-Krenke, 2001; Meeus et al., 2007; Seiffge-Krenke, 2003), when these relationships develop towards more intimacy, affection (Nieder & Seiffge-Krenke, 2001), support, and connected love (Seiffge-Krenke, 2003). This mechanism would predict a positive relation between parent-adolescent relationship quality and adolescent romantic relationship quality.

These predicted positive associations between parent-adolescent relationships and romantic relationships have been found empirically. Earlier studies showed positive correlations between romantic relationship quality at age 15 and maternal sensitivity in pre-adolescence and adolescence (Roisman, Booth-LaForce, Cauffman, & Spieker, 2009), between parental support and support in romantic relationships for adolescents aged 13 to 19 (Connolly & Johnson, 1996), between parental support and romantic relationship support in late adolescence (Furman, Simon, Shaffer, & Bouchee, 2002), between parental support and romantic relationship commitment in early adulthood (Meeus et al., 2007), between reliable alliance with parents at ages 15 and 17 and

romantic connectedness at age 20 (Seiffge-Krenke et al., 2001), and between family relationship quality in adolescence and connectedness in young adult romantic relationships (Crockett & Randall, 2006). Also, some studies did not find significant associations between relationships with parents and romantic relationships during adolescence (Meeus et al., 2007; Seiffge-Krenke et al., 2001; Shulman & Scharf, 2000), which could support the idea that romantic relationships become more salient during early adulthood and associations between relationships with parents and romantic partners become increasingly strong during late adolescence (e.g., Nieder & Seiffge-Krenke, 2001). It might be that only from late adolescence onwards, parent-adolescent relationships serve as a model for romantic relationships, since relationships with parents are by then more egalitarian compared to adolescence.

5.1.2 Associations between relationship quality with friends and romantic partners

As mentioned before with respect to parent-adolescent relationships, symmetrical friendships can also serve as a model for romantic relationships (Meeus et al., 2007). Friendships form a context in which adolescents can practice egalitarian and symmetrical relationship skills that they will need in their future adult life (Graziano, 1984; Laursen & Bukowski, 1997). The specific characteristics of romantic relationships resemble those of friendships, since both relationships are voluntary and egalitarian in nature and encompass feelings of intimacy and companionship (Furman, 1999; Furman et al., 2002; Furman & Wehner, 1994; Scharf & Mayseless, 2001). It is therefore expected that egalitarian relationship skills that characterize friendships are generalized to romantic relationships (Bouchey & Furman, 2003; Oswald, Clark & Kelly, 2004; Schaffer, 2003). Thus, a relation between adolescent friendships and romantic relationships is predicted.

Several empirical studies showed concurrent associations between friendships and romantic relationships, for instance between romantic relationship quality at age 15 and peer competence in childhood and at age 15 (Roisman et al., 2009), between support in friendships and romantic support in middle adolescence (Connolly, Furman, & Konarski, 2000), between negative interaction in friendships and negative interaction in romantic relationships at age 16 to 19 (Furman et al., 2002), between balanced relatedness in friendships and connectedness in romantic relationships at age 17 (Scharf & Mayseless, 2001), between emotional closeness in friendships and connectedness in romantic relationships at age 17 (Scharf & Mayseless, 2001), and between affective intensity with friends and affective intensity with romantic partners aged 14 to 19 (Shulman & Scharf, 2000). Other studies did not find significant associations between support in friendships and support in romantic relationships at age 16 to 19 (Furman et al., 2002) and between relationship quality in friendships and connectedness in romantic relationships in middle adolescence (Seiffge-Krenke, Shulman, & Klessinger, 2001).

5.1.3 Age differences

Over the course of adolescence, relationships with parents and friends change. Whereas relationships with parents become more egalitarian, friendships become more supportive and intense (De Goede, Branje, & Meeus, 2009a, 2009b). In adolescent romantic relationships too, developmental phases can be distinguished from romantic relationships characterized by temporal fun to future oriented romantic relationships (Bouchey & Furman, 2003). Due to the developmental changes in these close relationships, it is probable that associations between romantic relationship quality and relationship quality with parents and friends also change over time.

As mentioned before, earlier studies showed positive correlations between parent-adolescent relationship quality and adolescent romantic relationship quality (e.g., Connolly & Johnson, 1996; Roisman, Booth-LaForce, Cauffman, & Spieker, 2009). However, other studies did not find these associations (Meeus et al., 2007; Seiffge-Krenke et al., 2001; Shulman and Scharf, 2000), or only found these associations in late adolescence and early adulthood (Crockett & Randall, 2006; Furman, Simon, Shaffer, & Bouchey, 2002; Meeus et al., 2007; Seiffge-Krenke et al., 2001). These findings are in line with the notion that parent-adolescent relationships and adolescent romantic relationships become more similar towards late adolescence (Nieder & Seiffge-Krenke, 2001) since romantic relationships develop real attachment qualities in late adolescence, and that associations between relationships with parents and romantic partners become stronger in late adolescence as a result. Based on this consideration, we would expect the associations between relationships with parents and relationships with romantic partners to become increasingly strong during adolescence.

In contrast, another line of thinking suggests that associations between relationships with parents and relationships with romantic partners are stronger in early to middle adolescence compared to later adolescence. Since parent-adolescent relationships become more equitable over time (McGue, Elkins, Walden, & Iacono, 2005; Russell, Pettit, & Mize, 1998) and adolescents become increasingly autonomous (Blos, 1979; Grotevant & Cooper, 1986), it might be argued that the influence of parent-adolescent relationships diminishes as adolescents grow older. Because closeness and interdependence in friendships increase (Selman, 1981; Shulman, Laursen, Kalman, & Karpovsky, 1997), adolescent friendships are likely to become more salient and influencing over time. As a consequence, it is possible that during adolescence a shift takes place from commitment to parents as an important contributor to romantic relationship commitment to commitment to friends as an important contributor to romantic relationship commitment. Based on these notions, we would expect that the link between commitment to parents and romantic relationship commitment is stronger in early to middle adolescence and that the link between commitment to friends and romantic relationship commitment is stronger in middle to late adolescence.

5.1.4 Gender differences

Since girls were found to show more attachment and care in romantic relationships compared to boys (Shulman & Scharf, 2000), and girls are having more supportive and intimate relationships with parents and friends in general (Bukowski and Kramer, 1986; Furman & Buhrmester, 1992; Maccoby, 1990), it is probable that the levels of commitment in the different types of close relationships are higher for girls than for boys. Since relationships of girls are more intensive, it is possible that also associations between commitment in the different types of relationships are stronger for girls than for boys. Because no earlier studies have addressed this issue, we will investigate these gender differences exploratively.

5.1.5 Aims of the present study

In the current study, we will longitudinally examine linkages over time between commitment towards romantic partners at ages 16 and 20 and developmental changes in commitment to parents and friends from age 12 to 16 and age 16 to 20. Furthermore, we will explore age and gender differences with respect to these associations. Our main research questions are:

(1) How are commitment to parents and commitment to friends associated to romantic relationship commitment? We expect commitment to parents and friends to be positively related to romantic relationship commitment.

(2) Are there age differences regarding the linkages over time between commitment to parents and friends and romantic relationship commitment? Based on earlier studies and theoretical notions (e.g. attachment theory), we expect the link between commitment to parents and romantic relationship commitment to be stronger in late adolescence. Based on another line of thinking, we expect the link between commitment to parents and romantic relationship commitment to be stronger in early to middle adolescence, whereas we expect the link between commitment to friends and romantic relationship commitment to be stronger in middle to late adolescence.

(3) Are there gender differences regarding the linkages over time between commitment to parents and friends and romantic relationship commitment? Since no gender differences regarding this specific topic were investigated before, we examine gender differences in an explorative manner in the current study.

5.2 Method

5.2.1 Participants

Data for this study were collected as part of a five-wave research project on CONflict And Management Of Relationships (CONAMORE; Meeus et al., 2004), with a one-year interval

between each of the waves for all participants. The original longitudinal sample consisted of a total of 1341 participants. For this study we selected all adolescents involved in a romantic relationship at the fifth measurement wave ($n = 403$). This subsample consisted of a total of 142 boys (35.2%) and 261 girls (64.8%).

Two age groups were represented: 218 early to middle adolescents (54.1%), who were on average 12.4 years of age ($SD = .57$) during the first wave of assessment and 185 middle to late adolescents (45.9%), who were on average 16.7 years of age ($SD = .84$) during the first wave of assessment. The early to middle adolescent group consisted of 85 boys (39.0%) and 133 girls (61.0%). The middle to late adolescent group consisted of 57 boys (30.8%) and 128 girls (69.2%). Because both age groups were assessed during five measurement waves, a total age range from 12 to 16 and from 16 to 20 was available. Most participants were Dutch (88.4%), others identified themselves as part of a Dutch non-Western ethnic minority group. The participants were in junior high and high schools at Time 1.

The models in this study were estimated in Mplus with a Robust Maximum Likelihood estimation method (Satorra & Bentler, 1994), to provide better estimations of standard errors.

5.2.2 Procedure

The participating adolescents were recruited from various schools for secondary education in the province of Utrecht, the Netherlands. Before the study, both adolescents and their parents received written information describing the research project and goals and explaining the possibility to decline from participation. Both parents and adolescents provided informed consent. More than 99% of the approached high school students decided to participate. The participants completed the questionnaires at their own high school or at home, during annual assessments. Confidentiality of responses was guaranteed. Verbal and written instructions were offered. The adolescents received €10 as a reward for every wave they participated in.

5.2.3 Measures

Commitment in relationships with parents and friends. Commitment to parents and friends was measured with a short version of the commitment scale of a Dutch adaptation of the Investment Model Scale (Rusbult, Martz, & Agnew, 1998) for relationships with mothers, fathers, and friends separately. This instrument is designed to measure commitment level, satisfaction level, investment size, and quality of alternatives and has a good reliability and validity (Rusbult et al., 1998). The commitment level scale measures the intention to maintain a relationship and to feel attached to this relationship and was assessed with four items. An example of a commitment item is: "I feel very attached to the relationship with my mother." Answers were indicated on a five-point Likert scale (ranging from 1 = *not correct at all* to 5 = *entirely correct*). Internal consistencies were high with alphas ranging from .86 to .89 for relationships with mothers, alphas

ranging from .87 to .91 for relationships with fathers, and alphas ranging from .86 to .87 for relationships with friends.

Commitment in romantic relationships. Commitment in romantic relationships was measured with the commitment scale of the Utrecht-Management of Identity Commitments Scale (U-MICS; Meeus, 2001). The scale measures to which extent adolescents feel committed to the relationship with their intimate partner. The commitment scale consists of five items. Answers were given based on a five-point Likert scale (ranging from 1 = *entirely correct* to 5 = *not correct at all*) and were recoded to match the scale of commitment to parents and friends (1 = *not correct at all* to 5 = *entirely correct*). An example item is: “My partner gives me certainty in life.” Concurrent validity of the relational commitment scale has been demonstrated in two samples (Meeus & ’t Hart, 1993; Rispen, Hermanns, & Meeus, 1996). Of this instrument, only data from the fifth measurement wave were used to maximize the number of participants in the study. Internal consistency was high with an alpha of .91 in Wave 5.

5.3 Results

5.3.1 Preliminary analyses

We conducted a comparison of gender, age, and ethnicity between participants with and without a romantic relationship at Wave 5. In the early to middle adolescent group, we found a significant gender difference ($\chi^2(1, N = 951) = 14.65, p = .00$), with more girls than boys in a romantic relationship. We did not find significant differences regarding mean age ($t(945) = -.09, p = .93$) and ethnicity ($\chi^2(4, N = 916) = 1.22, p = .87$). In the middle to late adolescent group, we found no significant difference between adolescents with and without romantic relationships in mean age ($t(388) = -.23, p = .82$) and ethnicity ($\chi^2(4, N = 377) = 9.07, p = .06$). However, again more girls than boys were in a romantic relationship ($\chi^2(1, N = 390) = 21.44, p = .00$).

In the early to middle adolescence age group, we found no differences between adolescents with and without a romantic relationship in commitment to mothers and commitment to fathers at Wave 5 ($t(905) = .03, p = .98$ and $t(871) = 1.36, p = .17$, respectively). Adolescents with a romantic partner were, however, more committed to their best friend compared to adolescents without a romantic partner ($t(904) = -2.67, p = .01$). Also, in the middle to late adolescence age group, we found no differences regarding commitment to mothers and commitment to fathers at Wave 5 between adolescents with and without a romantic relationship ($t(358) = -1.36, p = .17$ and $t(350) = .21, p = .84$, respectively). Again, adolescents with a romantic partner were more committed to their best friend compared to adolescents without a romantic partner ($t(354) = -2.76, p = .01$).

5.3.2 Plan for analyses

To examine over-time correlations between the mean levels and rates of change of commitment to parents and commitment to friends, and romantic relationship commitment at Wave 5, we used a multivariate latent growth curve model. A four-group design was used to distinguish between early to middle adolescent boys, early to middle adolescent girls, middle to late adolescent boys, and middle to late adolescent girls. Within the model, the two observed scale scores for commitment to mothers and commitment to fathers together formed a latent variable representing adolescents' commitment to parents. Commitment to friends was represented by the observed scale scores. Within-time correlations between errors of commitment to parents and errors of observed variables of commitment to friends were added to the model. Although we tested both linear and curvilinear growth curve models, we decided to use the linear models due to estimation problems with the curvilinear models. These linear models fitted adequately (see Table 5.1).

We used model comparisons to investigate age and gender differences and to maintain the model as parsimonious as possible. In the baseline model, the four groups were constrained to be completely similar, except for the within-time error correlations. Subsequently, we stepwise released the estimates of the means, variances, and covariances across the four groups. Finally, we tested whether covariances between commitment to parents and romantic relationship commitment could be constrained to be similar to the covariances between commitment to friends and romantic relationship commitment. Using chi-square difference tests, we determined which parameter releases made a significant improvement to the model fit. The parameter releases that turned out to be a non-significant improvement to the model fit were again constrained to be similar in subsequent steps. Based on this strategy, all means were released to be different for the four groups, and the intercept-slope correlations across relationships (IC parents ↔ SL friends and IC friends ↔ SL parents) were constrained to be similar within each cohort instead of similar for all four groups. Furthermore, we constrained paths with romantic relationship commitment to be similar for relationships with parents and friends. All other constraints remained the same as in the first basic model. Table 5.1 shows the model comparison tests and the model fit indices of the different models. Results and fit indices of the best fitting model are displayed in Table 5.2 and Figure 5.1.

5.3.3 Linkages between commitment to parents and friends over time and romantic relationship commitment at wave 5

In both age cohorts, the intercepts of commitment to parents and commitment to friends correlated positively ($r = .46$), indicating that the base levels of commitment to both parents and friends are related. In addition, the slopes of commitment to parents and friends correlated positively ($r = .47$), indicating that the developmental changes of commitment to parents and friends are related over time. Furthermore, the results showed that in both age cohorts, a higher base level of commitment to friends was related to smaller increases or larger decreases in commitment to

Table 5.1 Model fit indices and model comparison tests

	Model fit indices				Model comparison tests			
	MLR χ^2	Df	SCF ^a	CFI	RMSEA	SBdiff ^b	Δ df	p
1. Basic model: fully constrained except for within-time error correlations.	411.497	228	1.015	0.831	0.089			
2. After stepwise releasing the means of the intercepts of parents and best friends, slopes of parents and best friends, and of romantic commitment at Wave 5.	328.485	213	1.022	0.894	0.073	90.664	15	.000
3. After stepwise releasing the variances of the intercepts of parents and best friends, slopes of parents and best friends, and of romantic commitment at Wave 5.	328.485	213	1.022	0.894	0.073			
4. After stepwise releasing the IC-SL correlations across relationships and constraining the other correlations.	319.573	211	1.023	0.900	0.071	9.724	2	.008
5. After stepwise releasing and again constraining the correlations between the growth factors and romantic commitment at Wave 5.	319.573	211	1.023	0.900	0.071			
6. After constraining correlations with romantic commitment to be similar for parents and friends.	320.666	213	1.024	0.901	0.071	.968	2	.616

Note. ^a Scaling Correction Factor (Satorra & Bentler, 2001)

^b Adjusted $\Delta\chi^2$ according to Satorra-Bentler's (SB) scaling corrections (Satorra & Bentler, 2001)

Table 5.2 Results of multigroup multivariate latent growth curve model

	Early to middle		Middle to late	
	Boys	Girls	Boys	Girls
Parents				
IC M	3.890 ^{***}	4.175 ^{***}	3.966 ^{***}	3.950 ^{***}
IC σ^2	.262 ^{***}	.262 ^{***}	.262 ^{***}	.262 ^{***}
SL M	.035	-.014	.039	.062 ^{***}
SL σ^2	.017 ^{***}	.017 ^{***}	.017 ^{***}	.017 ^{***}
Friends				
IC M	3.528 ^{***}	4.142 ^{***}	3.804 ^{***}	4.101 ^{***}
IC σ^2	.225 ^{***}	.225 ^{***}	.225 ^{***}	.225 ^{***}
SL M	.082 ^{**}	.020	.053	.000
SL σ^2	.015 ^{***}	.015 ^{***}	.015 ^{***}	.015 ^{***}
Romantic Partners				
W5 M	4.182 ^{***}	4.101 ^{***}	3.986 ^{***}	4.183 ^{***}
W5 σ^2	.490 ^{***}	.490 ^{***}	.490 ^{***}	.490 ^{***}
IC-IC Correlation	.462 ^{***}	.462 ^{***}	.462 ^{***}	.462 ^{***}
IC-SL Correlations				
IC parents ↔ SL parents	-.367 ^{***}	-.367 ^{***}	-.367 ^{***}	-.367 ^{***}
IC friends ↔ SL friends	-.626 ^{***}	-.626 ^{***}	-.626 ^{***}	-.626 ^{***}
IC parents ↔ SL friends	.120	.120	-.197	-.197
IC friends ↔ SL parents	-.362 ^{**}	-.362 ^{**}	-.143	-.143
SL-SL Correlation	.465 ^{**}	.465 ^{**}	.465 ^{**}	.465 ^{**}
IC/SL – Romantic Partner				
IC parents ↔ Partners W5	.101 [*]	.101 [*]	.101 [*]	.101 [*]
IC friends ↔ Partners W5	.109 [*]	.109 [*]	.109 [*]	.109 [*]
SL parents ↔ Partners W5	.157 [*]	.157 [*]	.157 [*]	.157 [*]
SL friends ↔ Partners W5	.167 [*]	.167 [*]	.167 [*]	.167 [*]

Note. All variances were constrained to be similar. All correlations were constrained to be similar for the four groups, except for the correlations IC parents ↔ SL friends and IC friends ↔ SL parents that were constrained to be similar within each cohort. Correlations between growth parameters and romantic relationship commitment at wave 5 were also constrained to be similar for relationships with parents and friends.

$\chi^2=320.666$, $df=213$, $CFI=.901$, $RMSEA=.071$

IC, Intercept; SL, Slope

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

parents. A higher base level of commitment to parents was related to larger increases or smaller decreases of commitment to friends in the early to middle adolescence age group, and to smaller increases or larger decreases in the middle to late adolescence age group.

In both age cohorts, the intercept and slope of commitment to parents correlated negatively ($r = -.37$) and also the intercept and slope of commitment to friends correlated negatively ($r = -.63$). This indicates that in both parent-adolescent relationships and adolescent friendships a higher base level of commitment is related to a smaller increase or larger decrease of commitment over time. Furthermore, in early to middle adolescence, a higher base level of commitment to friends by

boys was related to a smaller increase or a larger decrease in commitment to parents of boys. All other intercept-slope correlations were non-significant.

The growth factors of commitment to parents and friends are significantly and positively related to romantic relationship commitment at Wave 5. This means that higher base levels and larger developmental changes in commitment to parents and friends are related to higher romantic relationship commitment at Wave 5. These paths could be constrained to be similar for all groups, indicating that there were no age or gender differences with respect to these findings. Furthermore, we could constrain the paths between the growth factors and romantic relationship commitment to be similar for relationships with parents and friends, indicating that commitment to parents and commitment to friends are related to romantic relationship commitment with similar strength.

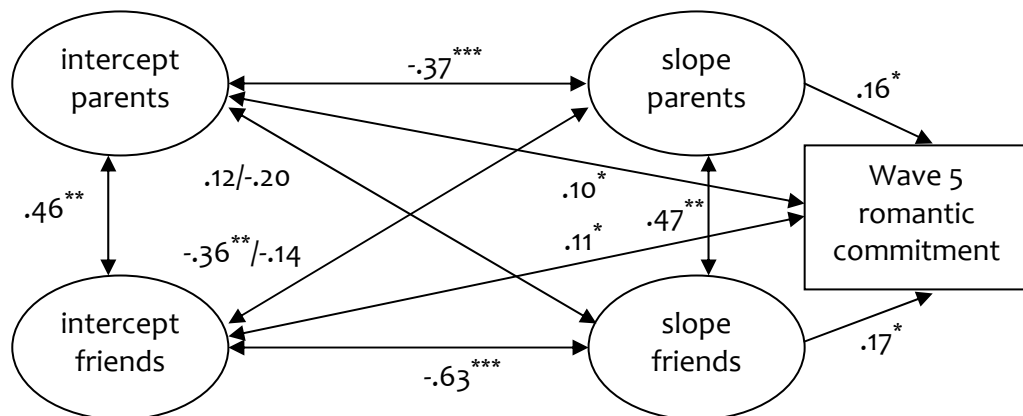


Figure 5.1 Correlations between intercepts and slopes of commitment to parents and friends and romantic relationship commitment at Wave 5

Note.

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

early to middle adolescence / middle to late adolescence

5.4 Discussion

This study aimed to investigate romantic relationship commitment at ages 16 and 20 and its linkages with commitment to parents and friends over time. The main findings are that both base levels and developmental changes of commitment to parents and friends are positively related to romantic relationship commitment. We found no age and gender differences and the linkages with romantic relationship commitment were equally strong for commitment to parents and commitment to friends.

5.4.1 Positive associations between commitment to parents, friends, and romantic partners

Our results confirm that base levels and developmental changes of commitment to parent and friends are positively associated to commitment to romantic partners. Thus, higher base levels as well as increases of both commitment to parents and commitment to best friend were related to higher levels of commitment to the romantic partner at the end of the 4-year period. These findings are in line with earlier studies (e.g., Conger, Cui, Bryant, & Elder, 2000; Furman et al., 2002; Scharf & Mayseless, 2001; Seiffge-Krenke, 2006), and extend the current knowledge by showing that commitment to parents and commitment to friends are already associated to romantic relationship commitment from the onset of adolescence (see also Roisman et al., 2009), and that this relation continues to exist until the end of the adolescence age period. In addition, our findings extend the current knowledge by showing that not only the base levels, but also developmental changes in adolescent commitment to parents and friends are related to romantic relationship commitment.

5.4.2 Same pattern of associations across time and across relationships

The positive associations we found were similar for early to middle and middle to late adolescents. Also, we did not find differences in the strength of the positive associations between commitment to parents and friends and romantic relationship commitment, neither across nor within age groups. These results contradict our prediction that associations between relationships with parents and romantic partners are stronger towards late adolescence. The results also contradict our prediction of stronger associations between commitment to parents and commitment to romantic partners in the early to middle adolescence age group and stronger associations between commitment to friends and commitment to romantic partners in the middle to late adolescence group. Instead, it seems that both commitment to parents and commitment to friends are related to romantic relationship commitment in an equally strong way and that this pattern of associations is stable throughout adolescence. This finding supports the notion of a stable and general attachment perspective in which adolescents use the same working model of relationships for different types of relationships (Furman, et al., 2002; Hazan & Shaver, 1987; Schneider, et al., 2001). This idea is also in line with the positive correlations found in earlier studies between romantic relationships and parent-adolescent relationships (Connolly & Johnson, 1996; Crockett & Randall, 2006; Furman, Simon, Shaffer, & Bouchey, 2002; Meeus et al., 2007; Roisman, Booth-LaForce, Cauffman, & Spieker, 2009; Seiffge-Krenke et al., 2001) and between romantic relationships and friendships (Connolly, Furman, & Konarski, 2000; Furman et al., 2002; Roisman et al., 2009; Scharf & Mayseless, 2001; Seiffge-Krenke, Shulman, & Klessinger, 2001; Shulman & Scharf, 2000).

5.4.3 Gender differences

Possible gender differences regarding associations between commitment to parents and friends and romantic relationship commitment were investigated in an explorative manner in this study. We found that the positive associations between commitment to parents and friends and romantic relationship commitment were similar for boys and girls. When we made a comparison between adolescents with and without a romantic partner at age 16 or age 20 we did, however, find gender differences. The findings of this comparison showed that more girls than boys were in a romantic relationship. This shows that girls are ahead of boys regarding the timing of formation of romantic relationships, yet the processes leading to successful romantic relationships are identical for boys and girls.

5.4.4 Strengths and limitations

A strong point of the current study is that findings were based on longitudinal data. The design allowed us to include relations between developmental changes of commitment to parents and friends from age 12 to age 16 and from age 16 to age 20 and romantic relationship commitment at age 16 and 20. In this way, the study extends the current knowledge by showing that not only the base levels, but also the developmental changes of commitment to parents and friends are related to romantic relationship commitment. Another strength is that the study includes adolescents from age 12 onwards, allowing us to show that commitment to parents and commitment to friends are already associated to romantic relationship commitment from the onset of adolescence onwards, and that this relation continues to exist until the end of the adolescence age period. Finally, the combined investigation of relationships with parents, friends, and romantic partners, provides a relevant representation of the actual social contexts adolescents live in, thereby providing more information than assessments based on a single social context.

Despite the longitudinal design, this study was nevertheless limited in that two groups of participants were assessed over five measurement waves, instead of one group that was assessed from early to late adolescence. Another limitation is that we had two different measures to assess commitment, one for commitment to fathers, mothers, and friends, and one for romantic relationship commitment. Also, the data were based on self-reports of adolescents and therefore only describe the adolescents' perceptions of the relationships. This can be problematic considering that different informants often report different perceptions (Renk, Donnelly, Klein, Oliveros, & Baksh, 2008; Vierhaus & Lohaus, 2008). On the other hand, it has been frequently found that adolescents more accurately report about their relationships than, for example, parents (Collins & Laursen, 2004a). Also, relationship quality is for a large part in the "eye of the beholder" (Branje, van Aken, & van Lieshout, 2002) and adolescents' perceptions of their relationships might influence interactions and adolescent developmental outcomes. Nevertheless, using observations or multi-informant questionnaires could give more information on relationship quality in these relationships.

5.4.5 Conclusions

All in all, the current study provides several conclusions. Firstly, both base levels and developmental changes of commitment to parent and friends are positively associated to romantic relationship commitment, indicating that higher base levels of commitment to parents and friends as well as increases in commitment to parents and friends were related to higher levels of romantic relationship commitment at the end of the 4-year period. Secondly, these positive associations were similar in early to middle adolescence and middle to late adolescence, indicating there were no age differences regarding associations between commitment to parents and friends and romantic relationship commitment. Thirdly, the investigated associations were of the same strength for boys and girls. Finally, we found that associations between commitment to parents and romantic relationship commitment and associations between commitment to friends and romantic relationship commitment did not significantly differ, showing that both commitment to parents and commitment to friends are related to romantic relationship commitment in an equally strong way and that this pattern of associations is stable throughout adolescence. It seems that both parent-adolescent relationships and friendships are equally important regarding the formation of committed romantic relationships in adolescence. This means that both relational contexts are necessary for the development of romantic relationships, from the emergence of romantic interest to a serious and long-lasting romantic relationship.

CHAPTER 6

General discussion

6 General discussion

This dissertation focused on adolescent relationships with parents, friends, and romantic partners from a developmental perspective. To gain a better understanding of developmental processes in adolescent relationships, we investigated concurrent and over-time linkages between different relationship characteristics within the same type of relationships. In addition, we longitudinally examined linkages between the same relationship characteristic in different types of relationships. In this final chapter, a summary of the main findings is given. Next, conclusions and a discussion, strengths and limitations, and suggestions for future research are presented. This chapter ends with concluding remarks.

6.1 Summary of the main findings

6.1.1 Development of parent-adolescent relationships

How do adolescent relationships with mothers and fathers develop regarding support, negative interaction, and power?

And how are developmental changes regarding support, negative interaction, and power associated over time within mother-adolescent and father-adolescent relationships?

The first study (Chapter 2) longitudinally examined both developmental changes in perceived support, negative interaction, and power, as well as linkages between these changes in adolescent relationships with mothers and fathers separately from age 12 to 15 and age 16 to 19. Based on earlier research and theoretical notions, we expected that parent-adolescent relationships would become more egalitarian over time and we expected that levels of support, negative interaction, and power would decrease. In addition, it was hypothesized that heightened levels of negative interaction with parents would stimulate changes in perceived support from parents and perceived parental power.

In line with the separation-individuation perspective (Blos, 1967), which states that parent-adolescent relationships become more detached, and in line with earlier cross-sectional research (Furman & Buhrmester, 1992), we found that perceived support from mothers and fathers declined from early to middle adolescence for both boys and girls. For boys, perceived support stabilized from middle to late adolescence. In contrast, support increased significantly from middle to late adolescence for girls, indicating that from middle adolescence onwards at least parent-daughter relationships become more connected again. In addition, the level of support in

parent-adolescent relationships remained rather high throughout adolescence. This is in line with the autonomy-relatedness perspective, which theorizes that adolescents develop more autonomy (Cooper, Grotevant, & Condon, 1983; Grotevant & Cooper, 1986). As a result, a temporary dip in parent-child connectedness may arise, although overall connectedness to parents remains important (Silverberg, Tennenbaum, & Jacob, 1992).

Whereas support from parents temporarily decreased, perceived negative interaction with mothers and fathers increased from early to middle adolescence and declined from middle to late adolescence for both boys and girls. This result confirms that conflict with parents is most intense during middle adolescence (Laursen, Coy, & Collins, 1998). An explanation for increased conflict intensity during early adolescence can be found in biological changes linked with puberty (Steinberg, 1981) and in disagreements between parents and adolescents about autonomy (Collins & Laursen, 2004b).

During adolescence, it is a main developmental task for adolescents to acquire more autonomy (Cooper, Grotevant, & Condon, 1983; Grotevant & Cooper, 1986) and, therefore, to change the power balance in their relationships with their parents. In line with this notion, the results showed that perceived parental power decreased from early to middle and from middle to late adolescence for both boys and girls. This decline was faster from early to middle adolescence than from middle to late adolescence. Although perceived parental power declined earlier than expected (Furman & Buhrmester, 1992), these results confirm that the power balance in parent-child relationships becomes less asymmetrical during adolescence (Laursen & Bukowski, 1997).

Regarding linkages between relationship characteristics, we found a significant positive relation between perceived parental support and perceived parental power in early adolescence, but not in middle adolescence. This indicates that early adolescents consider dominant parents to be supportive, but that this changes in middle adolescence, when adolescents desire more autonomy. The link between support and power continued longer in mother-adolescent relationships compared to father-adolescent relationships. Another linkage between developmental changes concerns conflict and power. From early to middle adolescence, a greater increase in conflict and a smaller decrease in power are especially strongly related in father-daughter relationships. It seems that specifically in father-daughter relationships with stronger increasing levels of conflict, daughters perceive their fathers as remaining relatively dominant.

Our hypothesis, that heightened levels of negative interaction with parents would stimulate changes in parent-adolescent relationships towards more equality (Blos, 1979; see also Zimmer-Gimbeck & Collins, 2003), was not confirmed by our findings. We found that higher levels of negative interaction are related to higher levels of parental power. In addition, we found that when adolescents perceive many conflicts with their parents, they see them as relatively non-supportive power figures and this remains the same over the course of adolescence, yet parental power does not decrease faster when adolescents perceive more negative interaction with their parents. These findings demonstrate that the adjustment in parent-adolescent relationships towards greater equality is related to, but not stimulated by, negative interaction with parents.

6.1.2 Development of adolescent friendships

How do adolescent friendships develop regarding support, negative interaction, and power?

And how are developmental changes regarding support, negative interaction, and power associated over time within adolescent friendships?

The second study (Chapter 3) longitudinally examined developmental changes in adolescent friendships as well as the interplay between these changes from age 12 to 20. The focus was on perceptions of adolescents regarding support, negative interaction, and power in their relationship with their best friend. We expected that support from friends would increase and that negative interaction would decline throughout adolescence. We held no explicit expectations regarding power due to inconsistent evidence. Regarding concurrent correlations, we expected a negative relation between support and negative interaction for girls only, a positive relation between negative interaction and power for both boys and girls, and a negative relation between support and power for girls only.

The results showed that support increased during adolescence for both boys and girls, which is in line with the idea that adolescent friendships become increasingly characterized by mutual respect and trust (Youniss & Smollar, 1985) and the idea that friends take over the role of parents as main providers of support (Furman & Buhrmester, 1992). Friendships possibly develop towards more intimacy and interdependence, because adolescents cognitively develop and acquire the required perspective taking skills to understand each other and to negotiate and integrate their needs (Selman, 1980; Shulman, Laursen, Kalman, & Karpovsky, 1997; Shulman & Knafo, 1997).

Our hypothesis was that negative interaction would decline from early to middle adolescence and then stabilize from middle to late adolescence (Furman & Buhrmester, 1992). In the results, however, negative interaction showed a curvilinear development for boys with an overall decrease towards late adolescence, and remained stable over time for girls. Although the decline in negative interaction started in middle adolescence instead of early adolescence, the overall decline of negative interactions for boys was as we expected. A factor that could account for this development is that adolescents learn to better differentiate between minor conflicts and acquire better perspective taking skills which could improve the friendship (Selman, 1980). Also, the decrease of negative interaction could be due to a decreasing importance of conformity in friendships (Berndt, 1979; Selman, 1980; Shulman et al., 1997). In addition, it could be that friendships become more stable over the course of adolescence with as a result more positive features and less negative interactions.

Furthermore, the results showed that perceived power of the friend decreased over time, especially for girls. This is in line with the idea that adolescent friendships become increasingly characterized by equality and symmetrical reciprocity (Youniss & Smollar, 1985). Friendships can become more interdependent due to cognitive development and improved perspective taking

skills (Selman, 1980; Shulman et al., 1997; Shulman & Knafo, 1997). Girls were found to develop towards more equality in their friendships at an earlier age compared to boys.

Several gender differences appeared regarding development of support, negative interaction, and power in adolescent friendships. Friendships of boys were found to become more supportive, less conflictual, and less powerful at a later age, indicating a lagged development for boys compared to girls.

Regarding linkages between the three relationship characteristics, the results showed that for girls higher levels of support are related to lower levels of negative interaction. Although for girls support and negative interaction were related from the start, for boys the relation between initial support and development of negative interaction over time was found to be significant. When initial support in friendships of boys was higher, negative interaction decreased faster than in less supportive friendships. Furthermore, for both boys and girls higher levels of power were related to higher levels of negative interaction. For boys only, we found that support and power were positively associated.

In sum, this study showed that friendships become more supportive during adolescence, that power issues are more prominent in friendships of boys, and that friendships of boys show a lagged development towards more equality compared to girls.

6.1.3 Linkages between adolescent relationships with parents and friends

How are parent-adolescent relationships and adolescent friendships linked to each other over time regarding support, negative interaction, and power?

The third study (Chapter 4) longitudinally investigated linkages between parent-adolescent relationships and adolescent friendships from age 12 to 16 and from age 16 to 20, to see whether perceptions of relationships with parents would influence perceptions of relationships with friends or vice versa? Again, the focus was on perceived support, negative interaction, and power in adolescent relationships with mothers, fathers, and friends. We hypothesized that relationship quality of parent-adolescent relationships would influence relationship quality of adolescent friendships over time. Based on contrasting theoretical perspectives, we expected a generalization principle in which relationship quality of adolescent friendships would predict relationship quality of parent-adolescent relationships over time. In addition, we expected that the possible influence of parent-adolescent relationships on adolescent friendships would diminish as adolescents grew older, whereas adolescent friendships would become more influencing on parent-adolescent relationships over time.

The results showed that support from parents systematically predicted support from friends. Also, support from friends systematically predicted support from parents. The influence of friend support on parental support remained constant throughout adolescence, whereas the influence of parental support on friend support was stronger in early to middle adolescence compared to middle to late adolescence. Furthermore, in early to middle adolescence the effects from parental

support to friend support were stronger than vice versa. In middle to late adolescence, the effects from parents to friends and vice versa were of similar strength. These last findings confirm the notion that parents become less important in the lives of adolescents, since parental influence on support with friends decreased in middle to late adolescence compared to early to middle adolescence. In addition to the decreasing influence of parents, also the mean levels of parental support decrease (De Goede, Branje, & Meeus, 2009b). So, friends seem to take over part of the parental role as supporters and parents and friends mutually affect each other.

In addition, the results showed that negative interaction with parents influenced negative interaction with friends with the same strength throughout adolescence. Only from middle to late adolescence, a consistent influence from negative interaction with friends to negative interaction with parents was found. In middle to late adolescence, the mutual influence between parent-adolescent relationships and adolescent friendships was equally strong. The increasing influence across age groups from friends to parents regarding negative interaction confirm the idea that friends become more important in the lives of adolescents as they grow older (Brown, 2004; Larson, Richards, Moneta, Holmbeck, & Duckett, 1996; Laursen & Bukowski, 1997).

Regarding perceptions of power, the results showed that adolescents' perceptions of parental power predicted friends' power and vice versa in both the early to middle adolescence group and the middle to late adolescence group. These mutual influences were of equal strength throughout adolescence. Overall, the findings showed a consistent bidirectional influence of similar strength between parental power and friends' power throughout adolescence.

All in all, the findings supported the theoretical ideas that perceptions of relationships with parents generalize to perceptions of relationships with friends and that relationship skills and principles of adolescent friendships generalize to relationships with parents. Furthermore, the results indicated that the influence of parents decreased over time, whereas the influence of friends increased, and that both social worlds become equally important and overlapping towards late adolescence.

6.1.4 Linkages between adolescent relationships with parents, friends, and partners

How are adolescent relationships with parents and friends associated to adolescent romantic relationships with respect to commitment?

The fourth study (Chapter 5) focused on the linkages between romantic relationship commitment and commitment to parents and friends, in order to distinguish precursors of committed romantic relationships. More specifically, we longitudinally examined linkages over time between developmental changes in commitment to parents and friends from age 12 to 16 and age 16 to 20 on the one hand and commitment towards romantic partners at ages 16 and 20 on the other hand. We expected commitment to parents and friends to be positively related to romantic relationship commitment. Based on earlier studies and theoretical notions (e.g. attachment theory), we expected the link between commitment to parents and romantic relationship commitment to be

stronger in late adolescence. Based on other theoretical notions, we hypothesized that the link between commitment to parents and romantic relationship commitment would be stronger in early to middle adolescence, whereas we expected the link between commitment to friends and romantic relationship commitment to be stronger in middle to late adolescence.

The results showed that higher base levels as well as increases of both commitment to parents and commitment to best friend were related to higher levels of commitment to the romantic partner at the end of the 4-year period in both age groups. These findings are in line with earlier studies (e.g., Conger, Cui, Bryant, & Elder, 2000; Furman et al., 2002; Scharf & Mayseless, 2001; Seiffge-Krenke, 2006), and show that commitment to parents and commitment to friends are already associated to romantic relationship commitment from the onset of adolescence (see also Roisman et al., 2009), and that this relation continues to exist until the end of adolescence. The study shows that both commitment to parents and commitment to friends are related to romantic relationship commitment in an equally strong way and that this pattern of associations is stable throughout adolescence, thereby supporting the notion of a stable and general attachment perspective in which adolescents use the same working model of relationships for different types of relationships (Furman, et al., 2002; Hazan & Shaver, 1987; Schneider, Atkinson, & Tardiff, 2001).

In sum, the study on romantic relationship commitment showed the importance of both parents and friends for both boys and girls regarding committed romantic relationships.

On the next page, Table 6.1 provides an overview of the main findings from the studies in this dissertation.

6.2 Conclusions and general discussion

6.2.1 Different types of close relationships

The studies in this dissertation show that the same relationship characteristics are differently perceived in relationships with parents and in relationships with friends. These differences are probably the result of the different characteristics of these relationships. According to the social relational perspective (Laursen & Collins, 1994), relationships with parents are involuntary, hierarchical, and constrained by kinship, whereas peer relationships are voluntary, symmetrical, and more easily dissolved (Hartup, 1989; Laursen, 1996; Laursen & Bukowski, 1997; Laursen & Collins, 1994; Youniss & Smoller, 1985) and these differences are also noticeable in the function of relationships with parents and friends.

In parent-child relationships, parents function as supervisors and provide a supporting environment in which their children can learn to manage new social situations in their development towards adulthood (Parke & Buriel, 2006). In this way, children and adolescents can learn social norms and rules and can enter situations with new contacts and experiences, knowing

Table 6.1 Summary of the main findings in this dissertation

Study 1:	(1) Parent-adolescent relationships become more egalitarian during adolescence. (2) Powerful parents are perceived as supportive, especially in early adolescence. (3) Conflict with parents is related to, but not a driver of, changes towards more equality.
Study 2:	(1) Friendships become more supportive during adolescence. (2) Power issues are more prominent in friendships of boys. (3) More powerful peers are perceived as more supportive by boys but not by girls. (4) Friendships of boys show a lagged development towards more equality.
Study 3:	(1) Perceptions about relationships with parents and perceptions about friendships are positively associated. (2) Relationships with parents influence relationships with friends. (3) Relationships with friends influence relationships with parents. (4) The influence of parents decreases and the influence of friends increases. (5) The two social worlds become equally important and overlapping towards late adolescence.
Study 4:	(1) Base levels and developmental changes of commitment to parent and friends are positively associated to romantic relationship commitment at the end of the 4-year period. (2) There are no age and gender differences regarding these associations. (3) Both commitment to parents and commitment to friends are related to romantic relationship commitment in an equally strong way and this pattern of associations is stable throughout adolescence.

there is a parent to fall back on for support and directions (Parke & Buriel, 2006). The results in this dissertation are supporting this image of the function of parents. In Chapter 2, we showed that in early adolescence parents form an important source of support and they are relatively dominant in the relationships with their adolescent children. In addition, the results of Chapter 4 and 5 showed that parents influence relationships with friends and that adolescent commitment to relationships with parents is associated to romantic relationship commitment in adolescence. But even though parents remain important providers of support throughout adolescence and commitment to parents remains associated to commitment to romantic partners even as late as the age of 20, the level of support from parents as perceived by adolescents diminishes over time and the influence of parents on friendships diminishes, at least regarding support in relationships. All in all, it seems inherent to parent-adolescent relationships that their function changes towards adulthood and, as a result, also the relationship characteristics as perceived by the adolescent children change.

In the meantime, the horizontal nature of friendships (Laursen & Bukoswki, 1997) is supposed to provide adolescents with a context to practice their increasing capacities of perspective taking, which enables them to develop principles of relating to others that are based on equality and can be generalized to other situations and romantic relationships later on (Piaget, 1932/1965; Selman, 1980; Sullivan, 1953; Youniss & Smollar, 1985; Brown, 2004). Because friendships are thought to be increasingly characterized by equality, mutual respect, mutual trust,

and symmetrical reciprocity (Youniss & Smollar, 1985) friends might be the pre-eminent persons adolescents turn to for fulfillment of a need for egalitarian and intimate interactions (Sullivan, 1953). Again, the results in this dissertation support this image of the function of friends. In Chapter 3, we demonstrated that friendships become increasingly supportive and egalitarian throughout adolescence. In addition, the results of Chapter 4 and 5 show that relationship quality in friendships generalizes to relationships with parents and romantic partners. Moreover, we found indications that the influence of friends on parent-adolescent relationships increases throughout adolescence.

Over time, adolescents also begin to rely on romantic relationships for fulfilment of their social and emotional needs (Bouchey & Furman, 2003). Because adolescents become more individuated from their parents towards late adolescence, long-term romantic partners also gain a function as the new attachment figure and care provider (Bouchey & Furman, 2003). In Chapter 5, we demonstrated that commitment to romantic partners in middle and late adolescence is positively associated to commitment to parents and friends throughout adolescence. So, even though romantic relationship partners have the function of new support and attachment figures, stable and general working models that were based on experiences in other relationships in the past seem to contribute to perceptions of romantic relationships.

All in all, the results in this dissertation underline the notion that adolescent relationships with parents and peers have different characteristics and functions. However, we also demonstrated that interrelations between these relationships exist over time and we revealed the possible mechanisms of influence and association between different types of relationships over time.

6.2.2 The power-support paradox

Within parent-adolescent relationships and within adolescent friendships, it was investigated whether there were any linkages between perceptions of support, negative interaction, and power. The results of this examination gave rise to the power-support paradox, showing that more power of the other in a relationship is sometimes perceived as supportive and sometimes as unsupportive, depending on the developmental level of the adolescent.

As for adolescent relationships with parents, we found a significant positive relation between perceived parental support and perceived parental power in early adolescence, but not in middle adolescence. This is in concurrence with the idea that parent-adolescent relationships become more egalitarian over time (Youniss & Smollar, 1985). Whereas in early adolescence, parents perceived by adolescents as powerful were viewed as supportive, this link diminished for the greatest part during middle adolescence. This finding suggests that during middle adolescence a change takes place regarding adolescents' perceptions of parental power from a positive and legitimate to a neutral and less legitimate function in increasingly egalitarian relationships. Possibly, early adolescents tend to comply automatically with parents' dominant suggestions and see them as legitimate and supportive, whereas middle adolescents desire more autonomy from more dominant parents and as a result perceive these parents as less supportive over time.

In friendships, the same positive concurrent association between support and power was found for boys only. A possible explanation for this finding is that for boys the friendship dyad is more focused on control and dominance (Galambos, 2004; Maccoby, 1990). In this form of peer interaction, it is accepted for one peer to be more dominant in deciding, because this phenomenon is inherent to the interaction form. Girls' friendship dyads, however, are more focused on decision making through polite discussion and compromise than through dominance (Maccoby, 1990). As a result, it could be that girls are less accepting of an unequal power division and therefore consider a higher level of power of a friend as negative and not as supportive. In addition, it seems that powerful parents and friends are perceived as more supportive when the parent or friend is accepted as being hierarchically superior, and this might be more applicable in early adolescence and in friendships of boys than in middle adolescence and friendships of girls.

6.2.3 Gender differences

When looking at gender differences in this dissertation, two main conclusions emerged. Firstly, adolescent girls had more supportive and egalitarian relationships compared to boys and secondly, boys showed a lagged development regarding quality and formation of peer relationships compared to girls.

Several findings showed that girls had relatively more supportive and egalitarian relationships than boys. For example in parent-adolescent relationships support from parents decreased from early to middle adolescence for both boys and girls, but from middle to late adolescence support from parents increased again only for girls, showing that connectedness in parent-daughter relationships was restored towards late adolescence and early adulthood, whereas support from parents stabilized at mid-adolescence level for boys. Also in friendships, girls perceived their friends as more supportive compared to boys from early adolescence onwards. Over time, development of support did not significantly differ for boys and girls, suggesting that the gender difference between boys and girls remained over time (Colarossi & Eccles, 2000; Furman & Buhrmester, 1992; Helsen, Vollebergh, & Meeus, 2000; Jenkins et al., 2002) and indicating that support in friendships of boys becomes more like support in friendships of girls, but with a lagged development.

In addition, negative interaction was less present in friendships of girls, showing again that girls have more positive friendships. Whereas negative interaction was low and stable in friendships of girls, boys first revealed an increase in negative interaction before reaching friendships with less negative interaction later on in adolescence. Furthermore, we only found for girls that when levels of support are higher, levels of negative interaction are lower. Possibly when intimacy and support are more important aspects in a friendship, as is the case for girls (Maccoby, 1990), support and negative interaction do not go together well in a friendship. For boys it is only until later that this association between support and negative interaction arises, again indicating a lagged development for boys compared to girls.

The findings also showed a lagged development regarding power issues for boys compared to girls. Whereas power in friendships was similar for boys and girls in early adolescence, power decreased throughout adolescence for girls and temporarily increased during middle adolescence for boys, indicating that friendships of girls are more equal from an earlier age and friendships of boys become more egalitarian at a later age.

Regarding romantic relationships, we found again a lagged development for boys. At age 16 and age 20, more girls than boys were in a romantic relationship. This shows that girls are ahead of boys regarding the timing of formation of romantic relationships, yet the processes leading to successful romantic relationships are identical for boys and girls.

A possible explanation for these gender differences regarding relationship development could be that girls have a faster cerebral cortex development than boys during early adolescence (Andrich & Styles, 1994; Colom & Lynn, 2004), with a two-year head start regarding intellectual and social-cognitive functioning during early adolescence as a result (Klimstra, Hale, Raaijmakers, Branje, & Meeus, 2009; Porteous, 1985; Silberman & Snarey, 1993).

6.3 Strengths and limitations

The studies presented in this dissertation contribute to the understanding of dynamics in parent-child relationships and peer relationships during adolescence and show the importance of investigating adolescent relationship quality over time. The availability of a longitudinal data set with age ranges from 12 to 16 and 16 to 20 allowed us to investigate developmental changes in relationship dimensions from the onset of adolescence onwards, thereby extending current knowledge based mainly on cross-sectional studies. Furthermore, by using (accelerated) latent growth curve models, more insight has been gained on linkages over time between these relationship characteristics in adolescent relationships. In addition, the combined investigation of relationships with parents, friends, and romantic partners, provides a relevant representation of the actual social contexts adolescents live in, thereby providing more information than assessments based on a single social context.

The studies in this dissertation also show several limitations. Despite the longitudinal design, this study was nevertheless limited in that two groups of participants were assessed over five measurement waves, instead of one group that was assessed from early to late adolescence. In future research a longitudinal design that covers the entire age period of adolescence would be preferable. Another limitation was that the data were based on self-reports of adolescents and therefore only describe adolescents' perceptions of relationships with parents, friends, and romantic partners. This is specifically problematic considering that different informants often report different perceptions (Renk, Donnelly, Klein, Oliveros, & Baksh, 2008; Vierhaus & Lohaus, 2008). On the other hand, it has been frequently found that adolescents more accurately report about their relationships than, for example, parents with respect to unpleasant aspects and that adolescents' perceptions regarding conflict are more likely to match reports from independent

observers (Collins & Laursen, 2004b). Furthermore, relationship quality is for a large part in the “eye of the beholder” (Branje, van Aken, & van Lieshout, 2002) and adolescents’ perceptions of their relationships might influence interactions and adolescent developmental outcomes. Nevertheless, using observations or multi-informant questionnaires could give more information on development in these relationships.

In addition, the studies using data on friendships are limited in that the included friendships might be mutual or non-mutual friendships, since reciprocity of these friendships was not taken into account. This might be problematic since qualitative features of reciprocal and non-reciprocal friendships could differ (Bukowski & Hoza, 1989; Bukowski, Hoza, & Boivin, 1993). Furthermore, friendship stability was not taken into account either, so the results are based on both stable and non-stable friendships. Stable friendships have been found to be more satisfying and to have higher levels of commitment and relationship quality than non-stable friendships (Branje, Frijns, Finkenauer, Engels, & Meeus, 2007; Kiesner, Nicotra, & Notari, 2005; Newcomb, Bukowski, & Bagwell, 1999). Possibly, these long lasting friendships could have a stronger influence on parent-adolescent relationships than short-lived friendships. Also, parent-child relationships might have a larger influence on longer lasting friendships compared to shorter friendships. Another point worth mentioning is that a minority of the participants selected cross-sex friendships in one or more waves. Same-sex and cross-sex friendships are found to differ on several features (Kuttler, La Greca & Prinstein, 1999; McDougall & Hymel, 2007). Since for a given participant, some waves of assessment were based on a same-sex friendship and other waves on a cross-sex friendship, the results were based on these two types of friendships.

6.4 Suggestions for future research

In the four empirical studies in this dissertation, adolescent relationships were investigated from the perspective of adolescents themselves. Even though perceptions of adolescents are at the core of the meaning relationships will have in their lives, the question arises what other people in these relationships perceive and what objective outsiders would perceive. As mentioned before, different informants often report different perceptions (Renk, Donnelly, Klein, Oliveros, & Baksh, 2008; Vierhaus & Lohaus, 2008). It would be interesting to compare these perceptions by means of multi-informant studies. In this manner, it could be investigated whether the developmental changes in adolescents’ perceptions on their relationships, as found in this dissertation, can be confirmed by the developmental changes in the perceptions of the relationship partners on these relationships. Or alternatively, it could be examined whether the perceptions of the relationship partners take another trajectory, thereby indicating a divergence between the perceptions of different relationship partners. In addition, it would be interesting to use observation tasks in which adolescents and their parents or friends interact in order to obtain more objective measures of adolescent relationships. Without the interference of the adolescents’ perceptions, it would be possible to find a true indication of relationship quality in adolescent relationships that does

justice to the contribution of both relationship partners. Thus, future research could make use of multi-informant and observational designs in order to get a more accurate and general description of developmental changes in adolescent relationships.

As mentioned before in the limitations section, another issue that remains unanswered is whether the two age groups that were followed over five years (from 12 to 16 and from 16 to 20) provide the same information we would have acquired when one age group was followed from age 12 to 20. Future research could focus on one age group over a longer time period in order to see whether the age differences we currently found are truly age differences or are also partly the result of cohort differences. Furthermore, future research could take on another approach of investigating adolescent relationship development by collecting data on relationship quality on a day-to-day or week-to-week basis instead of just annually. This kind of microgenetic design with a higher intensity of measurements (Siegler, 1996; Siegler & Crowley, 1991) could give more insight in the way developmental changes take place instead of describing the developmental patterns. Also, the use of other techniques of analysis could be used to gain more information on developmental changes. For example, mixture models (Muthén & Muthén, 2000; Nagin, 2005) could be performed to investigate whether the developmental changes in mean levels of relationship quality are the same for all adolescents or that different developmental subgroups regarding relationship quality could be distinguished. So, following one age group over a longer period of time, following adolescents with a higher intensity in measurement waves, and analysing the data with for example mixture models could give more information on the underlying processes that explain the developmental patterns reported in this dissertation.

Regarding friendships, future research could try to unravel possible distinctive developmental trajectories for different types of friendships. In this dissertation, we included friendships that were selected by the adolescents themselves without restrictions regarding sex or mutuality. In addition, adolescents were allowed to select a new best friend every new wave. As a result, not only mutual, same-sex and stable friendships were included, but also non-mutual, cross-sex, and non-stable friendships. Since it might be possible that different types of friendships have different characteristics (e.g. Kuttler, La Greca & Prinstein, 1999; McDougall & Hymel, 2007), it would be useful to distinguish between these different types of friendships in future research on development of friendships.

Finally, it would be interesting to include other personal and relational variables that could have an effect on development patterns in future research. For example, personality type during childhood and earlier interactions in relationships with parents were found to be related to adolescent friendships (Hart, Hofmann, Edelstein, & Keller, 1997; Furman, Simon, Shaffer, and Bouchev, 2002). Furthermore, including gender in linkages studies could indicate whether or not for girls influences between the different relationships are stronger, due to the higher intensity of these relationships. Including these kind of factors in future research could further illuminate interindividual differences with respect to developmental changes and dynamics in adolescent relationships.

6.5 Concluding remarks

In sum, this dissertation contributes to the understanding of dynamics in adolescent relationships with parents, friends, and romantic partners and shows the importance of investigating adolescent relationship quality over time. The findings showed that parent-adolescent relationships become more egalitarian and that adolescent friendships become more supportive. Also, it was found that relationships with parents and relationships with friends mutually influence each other, with a decreasing influence from parents and an increasing influence from friends. With respect to adolescent relationships with romantic partners, this dissertation showed the importance of parents and friends for both boys and girls regarding committed romantic relationships. Future research could benefit from observations or multi-informant questionnaires to provide more information on development and dynamics in adolescent relationships.

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Samenvatting (Summary in Dutch)

In relaties met ouders en vrienden vinden grote veranderingen plaats tijdens de adolescentie (Collins, 1995; Laursen & Bukowski, 1997). Belangrijke ontwikkelingstaken voor adolescenten zijn, ten eerste, om zich los te maken van hun ouders en tegelijkertijd verbonden te blijven (Allen, Hauser, Bell, & O'Connor, 1994; Blos, 1967; Grotevant & Cooper, 1985) en, ten tweede, om intieme en onderling afhankelijke relaties met vrienden en partners te vormen (Bouchey & Furman, 2003; Erikson, 1968; Sullivan, 1953). Deze veranderingen in relaties spelen zich af binnen een context van cognitieve, fysieke en psychosociale ontwikkeling (Collins & Repinski, 1994) die adolescenten in staat stelt stabiel en volwassener te worden, als persoon en als partner binnen een relatie (Lerner, 1985; Moore & Boldero, 1991).

Het doel van dit proefschrift was om uit te zoeken hoe hechte relaties zich ontwikkelen tijdens de adolescentie. De specifieke focus lag op relaties van adolescenten met beide ouders en vrienden. Door relaties met ouders en vrienden en associaties daartussen tegelijkertijd te bestuderen, is het mogelijk een beter begrip te krijgen van de processen die plaatsvinden binnen relaties tijdens de adolescentie (Collins & Repinsky, 1994). In dit proefschrift behandelden vier verschillende empirische studies ontwikkelingsveranderingen en dynamiek in relaties van adolescenten van 12 tot 20 jaar. Data werden ontleend aan de longitudinale steekproef van het CONAMORE-project (Meeus et al., 2004). Deze steekproef omvat 1341 deelnemers, waarvan 951 vroege adolescenten en 390 middenadolescenten, die gedurende vijf jaar vragenlijsten invulden. Voor de studies in dit proefschrift werden verschillende subsamples geselecteerd. De vragenlijsten die gebruikt werden gingen over waargenomen steun, negatieve interactie, macht en toewijding binnen relaties met moeders, vaders, vrienden en intieme partners.

Hoofdstuk 2 betrefte een longitudinale studie naar ontwikkeling van steun, negatieve interactie en macht en associaties tussen veranderingen in deze relatiekenmerken binnen relaties van adolescenten met moeders en vaders. We vonden dat steun van moeders en vaders daalde van de vroege tot de middenadolescentie voor zowel jongens als meisjes en weer toenam van de midden- tot de late adolescentie voor meisjes, terwijl steun in die periode stabiliseerde voor jongens. Negatieve interactie met ouders nam tijdelijk toe tijdens de middenadolescentie en macht van de ouders nam af van de vroege tot de late adolescentie. Daarnaast toonden de resultaten aan dat (1) ouder-kind relaties gelijkwaardiger worden tijdens de adolescentie, dat (2) dominante ouders als steunend worden ervaren, vooral tijdens de vroege adolescentie en dat (3) conflicten met ouders gerelateerd zijn aan veranderingen naar gelijkwaardiger ouder-kind relaties, maar dat conflicten geen drijvende kracht achter deze veranderingen vormen.

In Hoofdstuk 3 werd de ontwikkeling van steun, negatieve interactie en macht en associaties tussen veranderingen in deze relatiekenmerken onderzocht binnen relaties van adolescenten met vrienden. We vonden een toename van steun van vrienden voor zowel jongens als meisjes. Negatieve interactie nam tijdelijk toe voor jongens en bleef stabiel voor meisjes. Macht nam

tijdelijk toe en nam daarna af voor jongens en nam alleen af bij meisjes. De resultaten lieten zien dat (1) vriendschappen positiever worden met meer steun, minder negatieve interactie en minder dominantie, dat (2) dominantie meer aanwezig is in vriendschappen van jongens en dat jongens dominantere vrienden als meer steunend ervaren en dat (3) vriendschappen van jongens achterlopen op vriendschappen van meisjes in de ontwikkeling naar meer gelijkwaardigheid.

Hoofdstuk 4 richtte zich op associaties over tijd tussen relaties van adolescenten met ouders en vrienden wat betreft steun, negatieve interactie en macht. We vonden voornamelijk bidirectionele associaties met een sterkere invloed van ouder-adolescent relaties op vriendschappen dan andersom van de vroege tot de middenadolescentie en een even sterke wederzijdse invloed van de midden- tot late adolescentie. De bevindingen ondersteunen theoretische ideeën dat percepties van relaties met ouders generaliseren naar percepties van relaties met vrienden en dat relatieprincipes zoals opgedaan in vriendschappen generaliseren naar relaties met ouders tijdens de adolescentie. Verder geven de resultaten indicaties dat de invloed van ouders afneemt terwijl de invloed van vrienden toeneemt en dat beide sociale werelden even belangrijk worden en gaan overlappen naarmate adolescenten ouder worden.

In de studie in Hoofdstuk 5 onderzochten we associaties tussen toewijding binnen romantische relaties en toewijding aan ouders en vrienden tijdens de adolescentie. We vonden dat een hoger basisniveau van toewijding aan ouders en vrienden en een sterkere positieve ontwikkeling van toewijding aan ouders en vrienden gerelateerd waren aan een hoger niveau van toewijding binnen latere romantische relaties. Deze effecten waren even sterk in de vroege tot middenadolescentie als in de midden- tot late adolescentie. Ook waren toewijding aan ouders en toewijding aan vrienden even sterk gerelateerd aan toewijding in romantische relaties en vonden we geen sekseverschillen met betrekking tot deze associaties. De resultaten laten zien dat ouders en vrienden even belangrijk zijn voor toegewijde romantische relaties van zowel jongens als meisjes. Ook ondersteunen de resultaten het idee dat er één stabiel en algemeen werkmodel van relaties gebruikt wordt in verschillende typen relaties.

Samengevat draagt dit proefschrift bij aan een beter begrip van dynamiek in relaties van adolescenten met ouders, vrienden en partners en toont het aan dat het belangrijk is om relaties van adolescenten over tijd te bestuderen. De bevindingen laten zien dat ouder-adolescent relaties gelijkwaardiger worden en dat vriendschappen van adolescenten meer steunend worden. Ook werd gevonden dat relaties met ouders en relaties met vrienden elkaar wederzijds beïnvloeden, met een afnemende invloed van ouders en een toenemende invloed van vrienden. Wat betreft relaties met intieme partners laat dit proefschrift zien dat ouders en vrienden belangrijk zijn voor toegewijde romantische relaties van zowel jongens als meisjes. Toekomstig onderzoek zou baat kunnen hebben bij observatieonderzoek en vragenlijsten voor meerdere informanten om zo meer informatie te krijgen over ontwikkeling en dynamiek binnen relaties van adolescenten.

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Curriculum Vitae

Irene de Goede was born on October 13th 1980 in Culemborg, the Netherlands. After completing pre-university education at the Koningin Wilhelmina College in Culemborg in 1998, she attended Utrecht University where she obtained master's degrees in Developmental Psychology (2003), Neuropsychology (2004), and International Development Studies (2008). Irene started her PhD project in 2005 at the Research Centre Adolescent Development of Utrecht University, where she worked on her dissertation about development of adolescent relationships until 2009. During this period, Irene was elected to be deputy representative (2006-2008) and representative (2008-2010) of the Student and Early Career Network of the European Association for Research on Adolescence (EARA) and she was selected to attend the third EARA summer school in Belek, Turkey. In addition, she won the first prize in a national student competition on health issues in developing countries (the *GezondheidsBattle*) in 2006, she was member of a shadow parliament on international development issues (The Third Chamber) in 2007, and she spent three months in Nicaragua to conduct a qualitative study on international development cooperation and education in 2008. While being a PhD candidate, Irene supervised master theses and trained fieldworkers, and she organized the data collection of observation tasks during the third measurement wave of the RADAR project. Moreover, she presented papers at several national and international conferences. Since October 2009, Irene works as a researcher at The Netherlands Institute for Social Research | SCP in The Hague.

