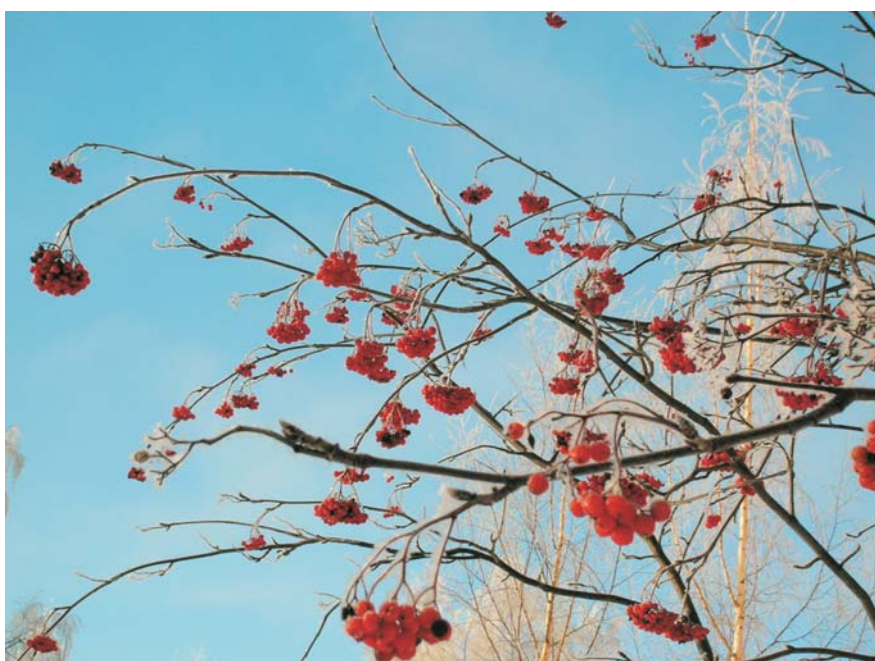Noona Kiuru

The Role of Adolescents' Peer Groups in the School Context

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UNIVERSITY OF JYVÄSKYLÄ

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Cover picture by Katja Natale

ABSTRACT

This dissertation examined the role of peer groups in adolescents' educational expectations, school adjustment and educational trajectories during the transition to post-comprehensive education by utilizing two distinct data sets. Sample 1 (N = 394) consists of data from the Towards Working Life study (Vuori, Salmela-Aro, & Koivisto, 2003). Sample 2 (Sample 2a: $N \sim 650$, Sample 2b: N = 1494) consists of data from the Kuopio School Transition study (Salmela-Aro, Nurmi, & Niemivirta, 2003). In these studies, the participants filled in a questionnaire concerning their educational expectations, adjustment, social background, and peer relations. After the transition they were also asked about their current educational trajectory. Peer groups were identified on the basis of positive peer nominations. The results of the dissertation showed that adolescents belonging to the same peer group resembled each other in a variety of characteristics relating to education, such as educational expectations, later educational trajectories and school adjustment. Peer group members were also similar to each other in their social background, suggesting that social stratification takes place partly at the peer group level. The results showed further that adolescents belonging to the same peer group resembled each other not only with respect to individual academic characteristics but also in their patterns of various behaviors, for example, how well they performed at school, whether they expected to enter senior secondary or vocational school, and whether they in fact did so. Problem behaviors also tended to cluster at the peer group level, that is, peer groups typified by low levels of adjustment also shared low expectations of their future education and vice versa. Evidence was also found for peer group influence: adolescents belonging to the same peer group were influenced, in particular, by each other's school burnout during the final term of comprehensive school. In addition, peer group type played a role in peer group homogeneity: the members of cohesive peer cliques showed greater similarity to each other in school adjustment than did the members of loose peer groups. Adolescents who did not belong to any peer group or who belonged to isolate dyads showed lower levels of adjustment compared to the other adolescents. Peer groups played a more important role in girls' educational planning compared to that of boys.

Keywords: Adolescence, peer groups, multilevel modeling, educational expectations and trajectories, overall and academic adjustment, social background

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CONTENTS

1   INTRODUCTION

In addition to individual characteristics, young people's development is influenced by a variety of social contexts, such as family, neighborhood, school, and community (Bronfenbrenner, 1979). Proximal social environments, such as family and peer networks, are considered to be the most significant contexts for the young person's immediate development (Magnusson & Stattin, 1998). The role of family is emphasized in childhood, whereas the developmental significance of peers grows as the child moves into adolescence. Unlike the hierarchical relationships between parents and their children, peer relations are egalitarian. Peer relations provide an important context for support, social comparisons, and sharing ideas, while adolescents construct their identities and gradually become independent of their parents.

During adolescence at least three kinds of changes take place in peer relationships: (1) stabilization of peer relations, (2) emergence of peer subcultures and (3) initiation of romantic and sexually oriented relationships (Brown, Dolcini, & Leventhal, 1997). As children move into adolescence highly fluid and activity-based peer relationships become more stable and active. For example, the time spent with parents decreases relative to that spent with peers, and peer relations become more autonomous of adult guidance and management (Chikszentmihalyi & Larson, 1984). At the same time peer relationships become more stable, intimate, intense, and supportive (Berndt, 1982; Hartup, 1983), and adolescents begin to attribute increasing importance to their peer relationships (e.g., Berndt & Perry, 1990; Furman & Buhrmester, 1992; Youniss & Smollar, 1985). Different kinds of peer subcultures, including certain kinds of lifestyles and value systems, also emerge and the number of romantic and sexually oriented relationships increases. During adolescent years individuals are particularly concerned with how others perceive them (Rankin, Lane, Gibbons, & Gerrard, 2004). Many studies suggest that individuals are especially susceptible to peer influence in early and middle adolescence, whereas the need to conform declines in late adolescence (Berndt, 1979; Brown, Clasen, & Eicher, 1986; Costanzo & Shaw, 1966; Gavin & Furman, 1989; Steinberg & Silverberg, 1986).

Most of the previous research on peer relations has focused on sociometric status (for a review see Cillessen & Mayeux, 2004; Newcomb, Bukowski & Pattee, 1993) or dyadic friendships (for a review see Newcomb & Bagwell, 1995). Both of these research traditions describe important but different aspects of peer relations. Social status reflects an individual's relative standing or acceptance in the classroom (Bukowski & Hoza, 1989; Wentzel & Caldwell, 1997), whereas friendships reflect mutually determined dyadic relationships (Newcomb & Bagwell, 1995). However, neither of these approaches captures the emergence of peer group phenomenon at the highest level of social complexity. It was not until the development in recent years of a more sophisticated methodology for studying the peer group phenomenon that children's and adolescents' peer groups began to receive increasing attention (e.g., Cairns, Xie, & Leung, 1998; Ryan, 2001). The present dissertation examined adolescents' peer groups. Peer groups were defined as groups consisting of small number of adolescents who "hang around" together and develop close relationships; that is, the term peer group refers to what Brown (1990) labelled a "clique".

At the same time as the developmental significance of peers increases during the years of adolescence (e.g., Brown, 2004) individuals also begin to explore their future prospects. The educational choices and educational attainments of adolescence play an important role in subsequent vocational careers (Lent, Brown, & Hackett, 1994) and economic well-being (Colemann, 1988; DiMaggio, 1982). Not surprisingly, education and preparing for working life are considered to be among the most important developmental tasks or institutional careers of adolescence (Erikson, 1959; Havighurst, 1953; Super, Savickas, & Super, 1996). On the one hand, young people construct their own educational aspirations and goals, as manifested in their choice of educational trajectories, and thus direct their own future lives (Brandtstädter, 1984; Lerner, 1987; Nurmi, 1993). Previous research has shown, for example, that adolescents' educational expectations and aspirations predict their actual educational choices and attainment (e.g., Marjoribanks, 2003; Schoon & Parsons, 2002; Wilson & Wilson, 1992), and future vocational trajectories (e.g., Elder, 1985; Hansen, 1997). On the other hand, adolescents' educational trajectories are shaped in the context of a variety of school systems. For example, age-graded school transitions provide a context for channeling individuals' life-trajectories (e.g., Elder, 1985; Hansen, 1997; Nurmi, 2001; Vondracek, Lerner, & Schulenberg, 1983): young people construct motives and aspirations to match the dominant social structures in an effort to produce realistic life-paths (Gottfredson & Becker, 1981; Lent, Brown, & Hackett, 2000; Nurmi, 1991; Super, 1953).

Although many studies have been carried out on adolescents' educational planning and career development, the role of peer groups in this process has been under-explored (e.g., Nurmi, 2004). Consequently, the aim of this dissertation was to examine the role of peer groups in adolescents' educational expectations and educational trajectories during the transition to post-

comprehensive schooling. In addition, the relative impact of peer group influence and selection in adolescents' school-related burnout, and the role of peer group type in peer group homogeneity in school adjustment, were examined.

The studies included in this dissertation were carried out in Finland. Finnish children start their education at kindergarten during the year of their sixth birthday. One year later, at age 7, they move to compulsory comprehensive school where they continue for the next 9 years. Comprehensive school divides into a lower level (grades 1-6) and an upper level (grades 7-9). Finnish upper comprehensive students spend approximately half of their hours of instruction with their classmates and about half in mixed classes. Up to age 16, all Finnish adolescents have a similar basic education. After comprehensive school adolescents' educational trajectories begin to differentiate. Of all adolescents 55% enter senior secondary schools and 37% vocational schools, 2% stay on for a voluntary tenth grade, and 6% exit formal education (*School Statistics*, Central Statistical Office of Finland, 2003). High academic achievement in the ninth grade is required for admission to senior secondary school. Senior secondary school education, in turn, is a prerequisite for university education, whereas education in vocational schools leads directly to a lower level occupational qualification. Educational choices at the end of comprehensive school channel Finnish young people on to either an academic or vocational track (e.g., Kosonen, 1983; Malmberg, 1996; Savolainen, 2001). Finnish girls graduate from senior secondary schools and enter universities more often than do boys (*Education in Finland*, 1999; Nevala, 2000). Education in Finland is state-provided and tuition is free.

1.1 Adolescence as the period of transition from childhood to adult roles

Adolescence is the period of transition from childhood to adulthood, and it consists of multiple changes in four different life domains: (1) puberty and physical growth, (2) abstract thinking and reasoning, (3) family and peer relations, and (4) sociocultural environment (e.g., school transitions). During adolescence childhood experiences and biological characteristics and dispositions are transformed into interests, competences, and self-beliefs that start to play an increasingly important role (Nurmi, 2004). As they make their way toward adult life adolescents gradually take more responsibility for decisions concerning them and start to grow toward becoming productive citizens.

Adolescence has for a long time been described as a distinct phase of life. First, the earlier psychological literature described adolescence as a period of heightened "storm and stress" featuring many crises and times of turbulence. For example, Hall (1904) suggested that individuals experience frequent conflict

with parents, mood disruptions, and risk behavior during adolescence. According to Erikson (1968), in turn, adolescence is typified by an identity crisis that needs to be resolved in order to avoid problems in future development. Most empirical studies have recently shown (e.g., Arnett, 1999), however, that even though storm and stress is somewhat more likely during adolescence than at other ages the majority of young people do not experience any significant storm and stress during adolescence rather their development is continuous and proceeds step-by-step. Second, because so many changes take place during adolescence, this period is also frequently described as a life phase which offers a "second chance". For example, if childhood experiences have been unfavorable adolescence could be a fruitful period for becoming a more active agent of one's own development and changing an adverse course of life (e.g., Larson, 2006; Lerner & Galambos, 1998). Overall, adolescence is an important phase of life as during it individuals construct their identities and make choices that direct their future lives.

Many concepts, such as institutional careers (Mayer, 1986), developmental tasks (e.g., Cicchetti, 1993; Havighurst, 1948), and role transitions (Caspi, 1987; Elder, 1985) have also been used to describe the social structures, expectations, and norms that arise during particular phases of life. These age-graded institutional and normative structures channel adolescents' future life trajectories as they underlie individuals' expectations and goals concerning their future (e.g., Heckhausen, 1999; Nurmi, 1993). Examples of major developmental tasks encountered during adolescence are identity development, independence of parents, the development of close friendships and relations with the opposite sex, educational choices, and preparation for a vocational career (e.g., Havighurst, 1948). It has been suggested that successful development requires that young people become interested in age-graded role transitions, solve related developmental tasks, and finally commit themselves to behaviors leading to major adult roles (Erikson, 1968, 1973).

1.2 Adolescents at school

1.2.1 Educational expectations and educational trajectories

Education plays an important role in people's future lives, such as in their overall vocational careers and life-paths (Featherman, 1980; Wiesner, Vondracek, Capaldi, & Porfeli, 2003). For example, academic achievement and educational choices impact on subsequent occupational trajectories (Lent et al., 1994), earnings potential, and adult economic well-being (Colemann, 1988). Not surprisingly education and preparation for working life are considered among the most important developmental tasks or institutional careers in adolescence (e.g., Havighurst, 1948; Super et al., 1996; Steinberg, 1999).

The life span theory of motivation suggests that personal goals that match age-graded developmental tasks are adaptive and contribute to individual well-

being (Nurmi, 1993, 2001). In accordance with the theory it has been shown that individuals become increasingly interested in education- and work-related topics during their adolescent years (e.g., Eccles, Vida, & Barber, 2004; Nurmi, 1991). The construction of personal goals consistent with the stage-specific demands of a particular transition has also been shown to promote young people's well-being (Salmela-Aro & Nurmi, 1997; Salmela-Aro, Nurmi, Saisto, and Halmesmäki, 2003). Success or failure in the developmental task of education (e.g., obtaining a study place, academic achievement) is likely to have long-term effects on adolescents' self-esteem and further educational goals (Nurmi 1993, 2001; see also Grotevant, 1987; Harter, 1990; Klaczynski & Reese, 1991).

Many theories (e.g., Eccles et al., 1983; Farmer, 1985; Gottfredson, 1981; Lent et al., 1994; Super, 1953; Vondracek & Schulenberg, 1986) suggest that various characteristics of the adolescent and his or her family contribute to educational planning and attainment and career development. Also empirical research has shown that, for example, academic achievement (Mau, 1995; Savolainen, 2001; Schnabel, Alfeld & Eccles, 2002), educational expectations and aspirations (Marjoribanks, 2003; Schoon & Parsons, 2002; Wilson & Wilson, 1992), and academic self-concept and self-efficacy beliefs (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Crosnoe, Riegle-Crumb, & Muller, 2007; Eccles, 1994; March, Trautwein, Ludtke, Koller, & Baumert, 2005) predict adolescents' later educational attainment and educational trajectories. It has also been shown that adolescents who come from less advantaged family backgrounds in terms of low levels of SES and parental involvement have both lower educational and occupational aspirations and lower actual educational attainments (e.g., Glasgow, Dornbusch, Troyer Steinberg & Ritter, 1997, Marjoribanks, 1986; Steinberg, Lamborn, Dornbusch & Darling, 1992) than those who come from more advantaged backgrounds. Other social contexts, such as teachers, have also been found to be influential in adolescents' educational aspirations (e.g., Parsons, Kazcala, & Meece, 1982).

Adolescents also face many school transitions during the second decade of their lives, although the precise forms and timing of these transitions vary widely across societies (Hurrelmann, 1994). School transitions are institutional structures that channel individuals' life trajectories (e.g., Entwisle, 1990; Nurmi, 2001; Osipow, 1983; Vondracek et al., 1983). During them, young people construct motives and aspirations to match the dominant social structures in an effort to produce realistic life-paths (Gottfredson & Becker, 1981; Lent et al., 2000; Nurmi, 1991; Super, 1953). In other words, young people direct their own future lives by drawing upon the possibilities provided by institutional structures (Brandtstädter, 1984; Lerner, 1987; Nurmi, 1993).

1.2.2 School adjustment

School provides an important developmental context for adolescents (Eccles, 2004). It has been found that adolescents' perceptions of and experiences in school are related to various adjustment outcomes such as self-esteem and

health behaviors (e.g., Hurrelmann, Leppin, & Nordlohne, 1995; Samdal, Nutbeam, Wold & Kannas, 1998). For example, students who dislike school are those most likely to fail in school, exhibit internal and external problem behaviours, psychosomatic problems, and experience reduced quality of life (e.g., Epstein, 1981; Jessor, 1991; Fredrics, Blumenfeld, & Paris, 2004; Hawkins, Catalano, & Miller, 1992; Kasen, Johnson & Cohen, 1990).

School adjustment is a broad construct comprising many different factors, such as academic achievement (Berndt & Keefe, 1995; Wentzel, Caldwell, & Barry, 2004), overall school satisfaction (e.g., Epstein & McPartland, 1976), school engagement (e.g., Bernt & Miller, 1990; Epstein & McPartland, 1976; Wentzel, 1993), and prosocial behavior at school (Wentzel et al., 2004). Well-adjusted students usually value what they are learning, are positively involved in classroom activities, are rarely disruptive (Berndt & Miller, 1990; Dubow, Tisak, Causey, Hryshko, & Reid, 1991; Wentzel, 1993), learn what is taught at school, and also receive high grades and test scores (Berndt & Keefe, 1996). School adjustment can be assumed to reflect adolescents' overall resources for school work and to be an important indicator of how well adolescents have been able to cope with the challenges and expectations presented by school, or how well school has been able to answer individuals' developmental needs. In the present thesis various aspects of school adjustment (i.e., academic achievement, school engagement, satisfaction with educational track) and school maladjustment (i.e., learning difficulties and negative attitudes towards school) were examined.

Classes, work assignments, homework, and exams, on the one hand, and making new friends and being a member of a peer group, on the other, are typically ranked as the most important challenges at school (Newman, Lohman, Newman, Myers, & Smith, 2000). Such challenges can be particularly demanding during the educational transition to a new school environment, such as post-comprehensive schooling in the Finnish school system. For example, high academic achievement is required for admission to senior secondary schools; this may increase academic pressures before the transition. In turn, after the transition adolescents are expected to adapt to their new school environment and meet new academic and social challenges. School transitions are stressful life phases for many adolescents and success in dealing with new educational and social challenges can influence the developmental trajectory of students (Bronfenbrenner, 1979; Eccles et al., 1993; Eccles, 2004; Maggs, Schulenberg & Hurrelman, 1997; Simmons & Blyth, 1987).

In some cases adolescents may begin to feel overwhelmed by the academic and social challenges they encounter. Such feelings may eventually lead to school burnout. On the basis of research conducted in work contexts (e.g., Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Maslach, Jackson, & Leiter, 1996; Maslach, Schaufeli, & Leiter, 2001), burnout in the school context has been defined as consisting of exhaustion due to study demands, cynical and detached attitude towards one's studies, and feelings of incompetence as a student (Salmela-Aro & Näätänen, 2005; Schaufeli, Martínez, Pinto, Salanova, &

Bakker, 2002). School burnout can be assumed to be due to a lack of fit between the student's internal resources for schoolwork and his or her own expectations for academic success, or those held by other people, such as teachers, peers, and parents. School burnout was used as one indicator of maladjustment at school.

Previous research has also shown many gender differences in school adjustment and maladjustment. For example, girls typically attribute more importance to academic achievement (e.g., Berndt & Miller, 1990), have higher levels of intrinsic academic motivation (Ryan, 2001), and have higher academic performance than boys (e.g., Frome & Eccles, 1998; Fuligni, Eccles, Barber, Clements, 2001). However, girls also worry more about their academic success (e.g., Murberg & Bru, 2004).

1.3 Peers and peer groups during adolescence

1.3.1 Adolescents and their peers

When children reach adolescence and start to become independent of parents, peer relations begin to play an increasingly important role in their lives (Brown, 2004; Harris, 1995; Magnusson & Stattin, 1998). During adolescence the time spent with peers increases (Chikszentmihalyi & Larson, 1984) and peer relations become not only more regular, intense, and supportive but also less supervised by adults (Berndt, 1982; Hartup, 1983). Adolescents also become more concerned about peer acceptance and popularity and begin to turn to their peers more often as sources of advice and comfort (Fuligni & Eccles, 1993; Gould & Mazzeo, 1982). It has been shown that adolescents acquire a wide range of skills, attitudes and experiences through interactions with their peers (Brown, 1990; Bukowski, Newcomb & Hartup, 1996; Rubin, Bukowski, & Parker, 1998). Evaluations and reactions in peer contexts also direct adolescents' behaviors and subsequent developmental pathways (Asher & Coie, 1990; Bagwell, Newcomb & Bukowski, 1998; Cairns & Cairns, 1994).

It has been suggested that peers influence individuals at several levels of social complexity: within individuals, in interactions, in relationships, and within groups (Hinde, 1987; Rubin et al., 1998). These different levels are also in continuous interaction with each other: lower levels of social complexity are often embedded in higher levels (see also Bronfenbrenner, 1979, Magnusson & Stattin, 1998). Individual functioning represents the lowest level of peer influence. In turn, dyadic behaviour involves two parties. Interaction is reciprocal activity between any two individuals and relationships involve a succession of interactions between two individuals who know each other. Groups of various kinds represent the highest level of social complexity and are defined according to relationships that exist between their members. Accordingly group properties, such as cohesiveness, hierarchy, heterogeneity,

and norms, are no longer relevant at the lower levels of social complexity (Rubin et al. 1998).

Besides their taking place on multiple levels (Brown, 1989) and being more stable and intense compared to childhood' peer relations (Brown et al., 1997), adolescents' peer relations are also characterized by continuous change (e.g., Cairns & Cairns, 1994). One reason for the changes that occur in peer relationships may be developmental changes experienced by young people; different kinds of peers may fulfill the needs of young people as they change across the adolescent years. If peers are not sufficiently similar to each other or sufficiently willing to conform to each other, the number of conflicts is likely to increase and the frequency of interactions to decrease (Cairns & Cairns, 1994). Consequently, adolescents' peer relationships can be characterized by dynamic and continuous processes of initiation, maintenance, and sometimes dissolution. For example, it has been shown that depending the criteria used to measure stability from one third to 50% of peer relationships dissolve during the course of a single academic year (e.g., Cairns & Cairns, 1994; Değirmencioğlu, Urberg, Tolson, & Richard, 1998; Hogue & Steinberg, 1995; Ryan, 2001).

1.3.2 Different research paradigms in peer research

Research on peer relations dates back to the work of Moreno (1934), who developed sociometric methods. Sociometry based on preferred peer choices or peer ratings provided some simple techniques that could be used to describe specific links among children or adolescents. Since Moreno's work, there has been a rapid accumulation of research on children's and adolescents' peer relations (for reviews, see Hartup, 1970, 1983, 1992). Three major research approaches can be identified in this particular field of research: (1) research on peer acceptance/rejection in the classroom as a whole, (2) research on friendship dyads, and (3) research on peer groups and networks. Previous research has largely focused on the first two approaches while considerably less research has been conducted within the last approach. It is this third approach, which is the focus of the present dissertation.

Reseach in peer rejection and acceptance

Research into peer acceptance/rejection dates from 1979, when Peery (1979) suggested following the lead of McCandless and Marshall (1957) that sociometric questions could be used to identify an individual's status in his or her social network. Coie and colleagues subsequently extended the sociometric status procedure, (Asher & Coie, 1990; Coie, Dodge, & Coppotelli, 1982; see also Newcomb & Bukowski, 1983) which lead to a substantial amount of work on the role of peer rejection/acceptance in individual development. The peer rejection/acceptance research tradition examines acceptance in the classroom as a whole. In the sociometric status approach, individuals are typically classified on the basis of positive and negative peer nominations into different status

groups, that is, popular, rejected, controversial, neglected, and average (Coie & Dodge, 1983; Frederickson & Furnham, 1998; Newcomb et al., 1993). Popular children have been described as friendly, helpful, and having good social skills, whereas rejected children have been frequently described as aggressive, disruptive, and having poor social skills. Neglected children, in turn, have been characterized as involved in more solitary activities and as less aggressive than other children. Finally, controversial children have been described as both highly active and aggressive. During recent years an increasing amount research has been conducted on heterogeneity within social status classes and heterogeneity in the developmental trajectories of children or adolescents belonging to different sociometric status groups (e.g., Cillessen & Mayeux, 2004; Cillessen, van Ijzendoorn, van Lieshout, & Hartup, 1992; De Bruyn & Cillessen, 2006).

An increasing amount of research has recently adopted a somewhat different approach to sociometry. This framework examines acceptance, rejection, preference, impact, or popularity in the classroom as continuous phenomenona rather than categories (for a overview, Cillessen & Mayeux, 2004). Continuous scores have the advantage of not losing information and being more comparable to the stabilities of certain other dimensions in the social development field, such as aggression. A continuous index measuring peer rejection/acceptance can be calculated, for example, on the basis of peer ratings on how much time children or adolescents like to spend with different classmates (Asher, Singleton, Tinsley, & Hymel, 1979; Cillessen & Bukowski, 2000; Ladd, Hearld, & Andrews, 2006).

Previous research has shown that peer rejection and exclusion predict many negative outcomes, such as low academic achievement and school adjustment (Buhs, Ladd, & Herald, 2006; Wentzel & Asher, 1995; Zettergren, 2003), victimization (Boivin, Hymel, & Hodges, 2001; Bukowski & Sippola, 2001; DeRosier & Thomas, 2003), loneliness (e.g., Boivin & Hymel, 1997), and emotional distress and difficulties in adjustment (Bagwell et al., 1998; Boivin, Hymel, & Bukowski, 1995; Coie, Lochman, Terry, & Hyman, 1992; Coie, Terry, Lenox, Lochman, & Hyman, 1995; Ladd, 1999, 2003; Parker & Asher, 1987). Peer acceptance or popularity, in turn, has been shown to promote high academic achievement and motivation (e.g., Guay, Boivin, & Hodges, 1999; Wentzel, 1991), academic progress (Lubbers, Van Der Werf, Snijders, Creemers, & Kuyper, 2006) and adjustment (e.g., Parker & Asher, 1987; Rubin et al., 1998). In addition to sociometric popularity peer-perceived popularity or reputation in the peer group has also attracted increasing attention during the last few years (Gorman, Kim, & Schimmelbusch, 2002; LaFontana & Cillessen, 1999; Schwartz, Gorman, Nakamoto, & McKay, 2006).

Research on friendships

Sullivan (1953) was the first major theorist to emphasize the contribution of close and mutual friendships to child and adolescent development. He proposed that intimate conversations with close friends increases sense of self-

worth and the accuracy of understanding of other people. More recently several theorists (for reviews see Bukowski, Brendgen, & Vitaro, 2007; Hartup & Stevens, 1997; Rubin et al., 1998) have suggested that interaction with close friends facilitates the learning of social skills and promotes well-being and academic success.

The friendship research tradition examines mutual dyadic relationships between two friends (Berndt, 1989; Hartup, 1983; Newcomb & Bagwell, 1995; Sullivan, 1953). Friendships represent strong affective ties between two individuals who view themselves as equals, and they are typified by intimate properties of affiliation, such as trust, commitment, shared interests, and reciprocal liking (Newcomb & Bagwell, 1995). Friendships have been suggested to serve at least three functions: (1) they are contexts for the acquisition of social and emotional skills and competencies; (2) they provide support and validation of self-worth; and (3) they serve as precursors to future relationships in adolescence and adulthood (Bagwell, 2004; Hartup, 1992). It has been shown that having friends promotes individuals' well-being and academic success (Hartup & Stevens, 1997; Wentzel et al., 2004) and buffers against maladjustment (Bukowski et al., 1996; Hodges, Boivin, Vitaro, & Bukowski, 1999; Laursen, Bukowski, Aunola, & Nurmi, 2007). In turn, peer rejection, loneliness, low self-worth, and depression are frequently reported by children and adolescents who lack friends completely (Boivin & Hymel, 1997; Bukowski, Hoza, & Boivin, 1993; Ladd & Troop-Gordon, 2003; Parker & Asher, 1993). Previous research has also shown that having mutual friends and peer rejection each have unique effects on loneliness, self-concept, depression, and academic performance (e.g., Bagwell et al., 1998; Parker & Asher, 1993).

However, besides having friends vs. not having friends, friendship quality and the characteristics of friends with whom one spends time have also been shown to contribute to children' and adolescents' development (for a review Hartup & Stevens, 1997; see also Parker & Asher, 1993). Friendships that meet needs for companionship, help and a feeling of being admired and respected are considered as high quality relationships (Berndt, 1996; Bukowski, Hoza, & Boivin, 1994). It has been found that having high quality friends enhances adjustment, academic motivation, and ability to cope successfully with stressors (Berndt, 1989; Hartup, 1996; Savin-Williams & Berndt, 1990), whereas low-quality peer relationships have the opposite effect (Parker & Asher, 1987). Moreover, depending on their characteristics, peers may have either positive or negative influences on young people. For example, it has been suggested that friendships between antisocial young people may provide deviancy training for delinquent and antisocial behaviors (e.g., Dishion et al., 1994).

Research on peer groups and networks

The research tradition on peer groups and networks has its roots in the 1960s, when Coleman (1961) examined adolescent girls' and boys' peer networks. Later, Brown (1989) described adolescents' peer relations as operating on three levels: dyads, cliques and crowds. The dyadic level consists of reciprocal dyadic

peer relations, such as best friendships or romantic relations. The clique level, in turn, consists of peer groups of a small number of adolescents who "hang around" together and develop close relationships. Finally, the crowd level consists of reputation-based peer groups of larger collectives of similarly stereotyped individuals.

Although research on peer groups started in the 1960s, more systematic research on this topic did not appear until the late 1980s and increasingly during 1990s and 2000s along with the development of more sophisticated methodologies. It has been shown that adolescents belonging to the same peer group tend to share similar sociodemographic, behavioral, and interpersonal characteristics (Cairns & Cairns, 1994; McPherson, Smith-Lovin, & Cook, 2001). Peer groups also shape and reinforce adolescents' behaviour in multiple ways (e.g., Brown, 1990; Cairns & Cairns, 1994; Harris, 1995; Rubin et al., 1998). Peer groups are defined by the relationships that exist between their members and consequently group properties are no longer relevant at the lower levels of social complexity (Rubin et al., 1998).

In the past many conceptual and methodological problems concerning identification of peer groups, actual versus perceived similarity, peer group influence as distinct from peer group selection, and the hierarchical structure of peer groups (i.e., adolescents in their peer groups are not independent observations) have hindered investigation of the peer group phenomenon (Ryan, 2001). The central advances in this research domain have been the development of methods of social network analysis (Cairns, Cairns, Neckerman, Gest, & Gariepy, 1988; Ennett & Bauman, 1994; Kindermann, 1993; Wassermann & Faust, 1994) and multilevel modeling (Bryk & Raudenbush, 1992; Duncan, Duncan, Alpert, Hops, Stoolmiller, & Muthén, 1997; Muthén, 1997). Social network analysis techniques facilitate the identification of peer groups. They use participants' reports on their relationships with other individuals in a given network to identify subgroups among whom there are relatively strong and intense ties (Ryan, 2001). Multilevel modeling, in turn, enables the simultaneous examination of peer group and individual level effects. The use of multilevel methods to examine peer group effects have only been used since the year 2001 (Ryan, 2001).

In the present dissertation both social network analysis and multilevel modeling were used to examine peer group members actual (not perceived) similarity. Social network analysis was used to identify peer groups using peer-nomination data collected from all the study participants. Multilevel analyses were then conducted in order to model more accurately the data nested within peer groups. The peer groups in focus are defined as consisting of small number of adolescents who "hang around" together and develop close relationships, that is, by peer group is meant what Brown (1990) termed a "clique".

1.4   Peer group homogeneity: Selection or influence?

Several concepts, such as homophily (e.g., McPherson et al., 2001), homogeneity (e.g., Cohen, 1977), and similarity (e.g., Kandel, 1978) have been used to describe the tendency of friends or peer group members to resemble each other. The majority of the earlier research on peer similarity has been conducted on friendship pairs (e.g., Billy & Udry, 1985; Fisher & Bauman, 1988; Hallinan & Williams, 1990; Hartup, 1983; Kandel, 1978). It is only during recent years that homogeneity among the members of peer group has received more attention (e.g., Cairns et al., 1998; Ryan, 2001). It has been shown, for example, that adolescents belonging to the same peer group resemble each other in various characteristics and behaviors, such as age, sex, and ethnicity (Cairns & Cairns, 1994; McPherson et al., 2001), external (Ellis & Zarbatany, 2007; Espelage, Holt & Henkel, 2003; Kiesner, Poulin, & Nicotra, 2003) and internal problem behavior (Hogue & Steinberg, 1995), smoking (Ennett & Bauman, 1994; Urberg, Değirmencioğlu, & Pilgrim, 1997), and drug (Cairns & Cairns, 1994) and alcohol use (Urberg et al., 1997).

Similarity among peers has been explained by reference to two processes, that is, peer selection and peer influence (Kandel, 1978; Değirmencioğlu et al., 1998). Recently, Urberg, Luo, Pilgrim, and Değirmencioğlu (2003) presented a two-stage model of the processes lying behind peer similarity. The first phase is the acquisition of friends or a peer group, that is, peer selection. By choosing to associate with particular peers, adolescents select a social context which exposes them to a particular set of values, behaviours, and opportunities. The second phase consists of the reciprocal socialization process in which peers either conform or do not conform to each other's behavior. Much of the earlier research on peer selection and influence has focused on friendship pairs (for a review see Kandel, 1996). Research on these processes in the context of larger peer groups has not began until recent years (Ennett & Bauman, 1994; Espelage et al., 2003; Ryan, 2001).

The only way to separate these two effects is to use longitudinal data (Kandel, 1978). It has been proposed, on the one hand, that peer group selection can be inferred if individuals are similar to their new peer groups prior to group formation (e.g., Urberg, Değirmencioğlu, & Tolson, 1998), or if they resemble their new peer group more than the group they left (e.g., Kandel, 1978). Evidence of peer group selection has been found for many characteristics, such as age, gender and ethnicity (Cairns & Cairns, 1994), smoking (Ennett & Bauman, 1994), delinquency (Burk, Steglich, & Snijders, 2007), and internalizing distress (Hogue & Steinberg, 1995). It has been suggested that peer group selection is based on proximity, shared interests and reciprocal liking (Brown, 1989; Urberg et al., 2003). For example, it has been suggested that shared interests relate to interpersonal attraction which facilitates peer relationships (Byrne, 1971; Condon & Crano, 1988; see also Cairns & Cairns, 1994).

On the other hand, it has been proposed that peer group influence operates if the behaviour of a peer group at Time 1 predicts changes in

adolescent behaviours between Times 1 and 2 (Değirmencioğlu, et al., 1998). Evidence of peer group influence according to this definition has been found, for example, in smoking, drinking, and drug use (Cairns & Cairns, 1994; Ennett & Bauman, 1994; Urberg et al., 1997), deviant and aggressive behaviour (Burk et al., 2007; Cairns & Cairns, 1994; Ellis & Zarbatany, 2007; Espelage et al., 2003), and internalizing distress (Hogue & Steinberg, 1995). The socialization process or influence of the group, can either be overt as it is the case of peer pressure and actual encouragement or discouragement, or subtle and indirect, operating via group norms, expectations, social acceptance and status associated with certain behaviors. Many theories, such as social learning theory (e.g., Bandura, 1977), reinforcement theory (e.g., Perlman & Fehr, 1986), group socialization theory (e.g., Harris, 1995; Homans, 1974), and social identity theory (Tajfel & Turner, 1979) have been used to explain the effect of peer group influence. For example, the social learning theory (Bandura, 1977, 1986) emphasizes the reciprocal mechanisms of social comparisons, modeling, and imitations of attitudes and behaviors of other members. The theory of group socialization (Harris, 1995), in turn, suggests that peer groups operate by a "majority rules" rule: if one or two individuals come to the group with behaviors that do not conform to the norms of the majority, they risk rejection by the group (p. 472). Social norms arise for characteristics that are important to the group. Another example from the variety of theories that aim to explain peer group influence effect is the social identity theory (Tajfel & Turner, 1979). The theory posits that group stereotypes help adolescents to differentiate their own group positively from other groups within the peer networks. Group members seek to evaluate their own group more positively than other groups and the need for positive social identity underlies personal motivation to adopt group norms.

Research on peer selection and influence among adolescents in the context of peer groups continues to have at least two major limitations. First, even though both processes are known to be important, they have been investigated in only a few studies and in respect of a limited range of behaviors, such as smoking (Ennett & Bauman, 1994), delinquency (Burk et al., 2007), and academic engagement (Kindermann, McCollam, & Gibson, 1996). For example, many studies (e.g., Ellis & Zarbatany, 2007; Espelage et al., 2003; Ryan, 2001) have focused only on peer group influence and have controlled for selection effects. Second, even though it is known that adolescents tend to overestimate their similarity with their peers (Berndt & Keefe, 1995; Davies & Kandel, 1981; Fisher & Bauman, 1988; Kerr, Stattin, & Kiesner, 2007) many studies have continued to examine perceptions of peer group similarity instead of actual similarity. In the present dissertation adolescents' peer groups were first identified by means of social network analyses and then the roles of peer group selection and influence were examined in the light of actual (not perceived) group homogeneity with regard to school burnout.

1.5 Peer group properties and peer group homogeneity

It has been suggested that peer groups vary according to many properties, such as size, cohesion, and peer group norms (Rubin et al., 1998). First, different subtypes of peer groups (or peer cliques according to Brown) have been identified. The term clique has been used to refer to highly cohesive peer groups with intensive ties among the members, whereas the term loose group has been used to refer to distinguishable peer groups with less intensive ties among the group members than is the case in cliques (e.g., Değirmencioğlu et al., 1998). Isolate dyads, in turn, refer to groups of two individuals who share a reciprocal tie but do not belong to any larger peer group (e.g., Espelage et al., 2003; Ryan, 2001).

Previous studies have been inconsistent over the types of peer groups they have considered to count as peer groups. Some studies have defined peer groups in terms of cliques and isolate dyads (Espelage et al., 2003); some studies have identified cliques and loose groups as major types of peer groups (Değirmencioğlu et al., 1998; Urberg et al., 1997); and still other studies have defined peer groups in terms of cliques, loose groups, and isolate dyads (Ryan, 2001). Because almost no research that has examined whether peer group characteristics vary according to peer group type, one aim of this dissertation was to compare cliques, loose groups, and isolate dyads in terms of peer group homogeneity and mean level adjustment and maladjustment.

Second, peer groups also differ according to their gender composition. The theory of two gender cultures (Maccoby, 1990, 1998; Underwood, 2004) suggests that distinctive cultures develop within boys' and girls' groups. According to the theory the peer culture of girls is typified by closer, more intimate, and more exclusive relations compared to that of boys, whereas the peer culture of boys includes more concern with dominance, status hierarchies, and competition compared to that of girls. Empirical results have provided at least some support for the theory. For example, in comparison with boys adolescent girls have been found to report more self-closure in their peer relations (Berndt, 1982; Buhrmester, 1990), attribute more importance to peer groups (Crockett, Losoff, & Petersen, 1984; Kerr et al., 2007; Maccoby, 1995), and rate their friendship quality more positively (Berndt & Keefe, 1995; Brendgen, Markiewicz, Doyle & Bukowski, 2001). Only a few studies have examined gender differences in membership in different types of peer groups. There is some evidence to suggest, however, that girls tend to be more connected to their peer network than boys (Benenson, 1990; Urberg, Değirmencioğlu, Tolson, & Halliday-Scher, 1995) and more often retain the same peer network role over time than boys (Değirmencioğlu et al., 1998).

In the light of the above-mentioned results it might be assumed that gender also plays a role in peer group homogeneity. Previous research on this topic, however, has obtained contradictory results. There is some evidence to suggest that the members of girls' peer groups show more similarity with each

other than do those of boys' groups (e.g., Cairns et al., 1998; Cairns & Cairns, 1994). Not all studies, however, have been able to show such differences (e.g., Chen, Chang & He, 2003; Urberg et al., 1997). Consequently, a further aim of the present dissertation was to clarify the role of gender in peer group homogeneity of school adjustment. Also gender and peer group type interactions were examined in relation to peer group homogeneity of school adjustment.

1.6 Peer groups, educational planning and adjustment at school during adolescence

Aside from parents and teachers (e.g., Garg, Kauppi, Lewko, & Urajnik, 2002; Parsons et al., 1982), peer groups form a natural context for thinking about the future (Nurmi, 2004). For example, adolescents often discuss their future-related decisions with their peers. Peers are also an important source of future-related information among adolescents (Malmberg, 1996). Moreover, young people may emulate their peers' decisions concerning their future education, particularly when they are uncertain of their own plans. Peers are also likely to provide feedback on adolescents' expectations, when future-related issues are discussed in peer groups.

However, although a substantial amount of research has been carried out on adolescents' educational planning and career development (for a review, see Nurmi, 2004), only a small amount of research has been conducted on the role of peer groups as a context for adolescents' educational goals and trajectories. For example, only a few studies (Cohen, 1977) have examined the role of peer groups in the formation of educational expectations. Moreover, no prior studies have examined to what extent adolescents who belong to the same peer group are similar in terms of their educational trajectories later on. Similarly, little is known about the extent to which the characteristics shared by peer group members, such as educational expectations, academic achievement, SES, and family structure, predict group members' subsequent educational trajectories. Consequently, Studies I and II of this dissertation sought in particular, to clarify these issues.

Peer groups are also likely to play a role in adolescents' school adjustment. Previous research in the academic domain has shown that adolescents belonging to the same peer group resemble each other with regards with regard to their academic achievement (Chen et al., 2003; Ryan, 2001) and learning motivation (Kindermann et al., 1996; Kindermann, 2007; Ryan, 2001). Adolescents have also been shown to both select new peer groups on the basis of similarity in terms of academic achievement and motivation (Kindermann et al., 1996) and to be influenced by other group members with regard to academic achievement and motivation (Kindermann, 2007; Ryan, 2001). For example, the results of Ryan (2001) showed that students' peer groups in the fall predicted subsequent changes in their liking and enjoyment of school and their

achievement over the school year. However, no previous studies have examined the role of peer groups in adolescents' school- related burnout. Consequently, Study III of this dissertation examined the extent to which peer group selection and influence contribute to adolescents' school burnout during the final term of comprehensive school. The final term of comprehensive school provides adolescents with the last chance to improve their grades and thus their chances of obtaining their desired post-comprehensive schooling. Finally, Study IV aimed to examine whether peer group homogeneity in school adjustment varies according to peer group type and gender.

1.7 Aims of the empirical studies

The aim of this dissertation was to examine the role of peer groups in adolescents' educational expectations, school adjustment, and educational trajectories.

Study 1 examined whether adolescents belonging to the same peer group resemble each other in terms of educational expectations, and whether the adjustment typical of the peer group is associated with the educational expectations shared among the group's members.

Study II aimed to extend the results obtained in Study I by investigating whether the members of adolescents' peer groups share similar educational trajectories after the transition to post-comprehensive schooling. Also examined were the impacts of peer group characteristics, such as the educational expectations and family background (i.e., family structure, family SES) typical of the peer group on group members' educational trajectories.

Study III examined whether the processes of peer group influence and selection contribute to school burnout, that is, the extent to which adolescents choose new peer groups on the basis of similarity in terms of school burnout and the extent to which adolescents belonging to the same peer group are influenced by each other's burnout. Moreover, the roles of academic achievement and gender in school burnout were examined.

Finally, Study IV examined whether the members of adolescents' peer groups are similar in terms of their school adjustment and whether this homogeneity varies according to peer group type and gender. The roles of peer group type and gender were also examined in relation to mean level of school adjustment.

2 OVERVIEW OF THE ORIGINAL STUDIES

2.1 Method

2.1.1 Samples and participants

The studies reported here are part of the Towards working life study (Vuori et al., 2003) and the Kuopio School Transition study (Salmela-Aro et al., 2003). Both are ongoing studies with the aim of examining adolescents' life-planning, social relations, and well-being in middle and late adolescence. In both studies the participants were Finnish adolescents facing the transition to post-comprehensive schooling (see introduction section for details on the Finnish school system).

Study 1

In study I the data obtained at the first measurement of the first cohort of the Towards working life project were analyzed. Only those schools in which whole classrooms were assigned to participate in the study were included in Study I (theoretical N = 413). The participants were 394 ninth-graders (median age = 15) from two medium-sized towns in southern Finland facing the transition to post-comprehensive schooling. The dataset used in Study I was drawn from *Sample I*.

Studies II, III, and IV

In studies II, III, and IV the data drawn from the Kuopio School Transition study were analyzed. At the beginning of the study the participants were ninth-graders facing the transition to post-comprehensive schooling in one medium-sized town in central Finland (median age = 15, theoretical N = 773).

In Study III the first and second measurements in the ninth grade (i.e, Time 1 and Time 2) were analyzed, whereas in Study II the first measurement in the ninth grade (i.e., Time 1) and the 3rd measurement after the transition to post-comprehensive schooling were analyzed (i.e., Time 3). At Time 1 a total of 611 adolescents out of 773 filled in a questionnaire, at Time 2 a total of 614 adolescents out of 773 filled in a questionnaire, and at Time 3 a total of 729 adolescents out of 773 filled in a questionnaire. The datasets used in Studies II and III was drawn from *Sample 2a* (See Figure 1). By contrast, the dataset used in study IV was drawn from *Sample 2b*, which consisted of a total of 1494 secondary school students. Sample 2b included the participants of the 3rd measurement of Sample 2a in addition to other adolescents belonging to the same schools after the transition to post-comprehensive schooling. An overview of the design and measurement points analyzed in Studies I-IV is shown in Figure 1.
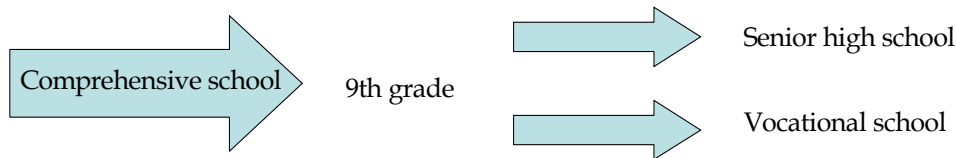
Towards Working Life Study (Study I, Sample 1)

	TIME 1	
Participants (Sample 1)	394	

Kuopio School Transition Study (Studies II, III, IV, Samples 2a and 2b)

	TIME 1	TIME 2	TIME 3
Participants			
Sample 2a	611	614	729
Sample 2b			1494

FIGURE 1   Overview of measurement points in Samples 1, 2a, and 2b

2.1.2 Peer group identification

The following procedure was used to identify peer groups (for a more detailed description, see studies I-IV). Identification of peer groups was based on positive peer nominations which were obtained by means of the sociometric procedure developed by Coie et al., (1982). In Study I participants were asked for peer nominations within each classroom, whereas in Studies II-IV the participants were asked for peer nominations within their school. Sociograms based on the positive nominations were drawn for each classroom in Study I and for each school in Studies II-IV. Moreover, specific group membership

criteria were used to identify peer groups: (1) at least 50% of a person's reciprocal and unilateral links had to be within the peer group and (2) either a reciprocal, a unilateral or an indirect link had to exist from each member to every other member of the peer group. Membership in only one peer group was allowed: if participants had links to multiple peer groups, they were assigned to the peer group in which they had the largest number of friendship links. The criteria resembled those used in other studies using social network analysis to identify peer groups (e.g., Ennett & Bauman, 1994; Espelage et al., 2003; Ryan, 2001; Urberg et al., 1997).

In studies I and IV peer groups were also categorized as cliques, loose groups or isolate dyads. Cliques were highly cohesive peer groups (consisting of three or more members) among whom at least 85% of the all possible direct nominations were reciprocal. Loose groups consisted of adolescents who met the criteria for group membership, but among whom less than 85% of the ties were reciprocal. Isolate dyads consisted of only two members who shared a reciprocal tie and who did not belong to any larger peer group. Participants who did not meet the group membership criteria were considered as isolates or liaisons. Isolates were lone individuals, and liaisons had a few links to several groups but did not meet the peer group criteria. Only peer group members were included in the subsequent multilevel analyses. The group membership criteria are given in detail in the method sections of studies I-IV. Identification of adolescents' peer groups enabled us to examine the actual (not perceived) homogeneity among their members. An example of peer network is shown in Figure 2.
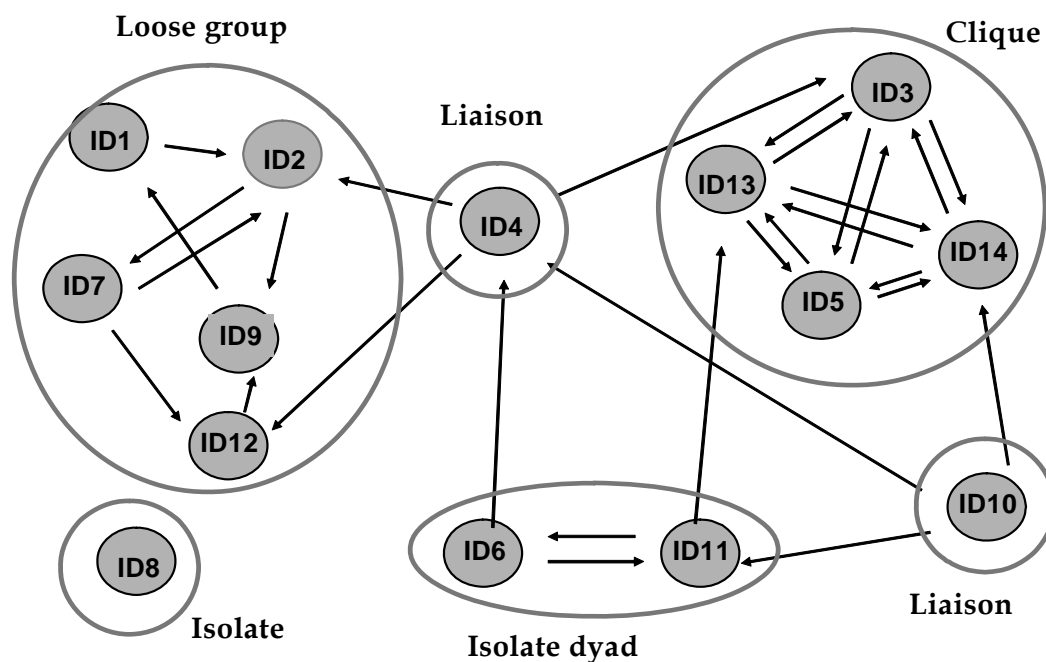
FIGURE 2   Example of peer network

2.1.3 Variables and concepts

In the different studies diverse sets of variables were used. A summary of these variables and related major concepts are reported in Table 1.

TABLE 1   Summary of the variables used in studies I-IV

Study	Sample	Concepts	Variables
Study I	Sample 1	*Peer group homogeneity*	- Peer nominations - Gender
		Educational expectations	- Short-term and long-term educational expectations
		Academic adjustment	- Academic achievement - Learning difficulties
		Overall adjustment	- Negative attitude towards school - Self-esteem - Problem behavior
Study II	Sample 2a (T1 & T3)	*Peer groups*	- Peer nominations - Academic achievement
		Educational trajectories	- Educational expectations - Family SES
		Family background	- Family structure - Gender - Educational trajectories
Study III	Sample 2a (T1 & T2)	*Peer group influence*	- Peer nominations - School burnout
		Peer group selection	- Academic achievement - Gender (+self-esteem and depression as control variables)
Study IV	Sample 2b	*Moderators of peer group homogeneity*	- Peer nominations - Peer group type - Gender
		School adjustment	- Satisfaction with educational track - School engagement - School burnout - Academic achievement

2.1.4 Multilevel modeling

Multilevel modeling (Muthén & Muthén, 1998-2006, see also Muthén, 1997; Duncan et al., 1997) was used as a major analytical method in all four studies. One of the key aims of the present dissertation was to examine peer group homogeneity, that is, the extent to which adolescents' belonging to the same peer group resemble each other in characteristics related to education, such as educational expectations, adjustment and further educational trajectories. Multilevel Modeling (Duncan et al., 1997; Muthén, 1997) is an ideal tool for this purpose: It enables the variance of the observed variables to be differentiated into two components: variation that is due to similarities among the adolescents belonging to the same peer group (*between-peer group variation*) and variation that is due to individual differences within peer groups (*within-peer group variation*).

Intraclass correlations (ICC), in turn, provide an estimate on what proportion of the total variance is due to the cluster-level (Heck, 2001; Muthén, 1991). If the observed variables show statistically significant peer group-level variation (i.e., peer group homogeneity is statistically significant), further multilevel analyses are meaningful. Figure 3 illustrates the idea of multilevel modeling in the case of peer groups.
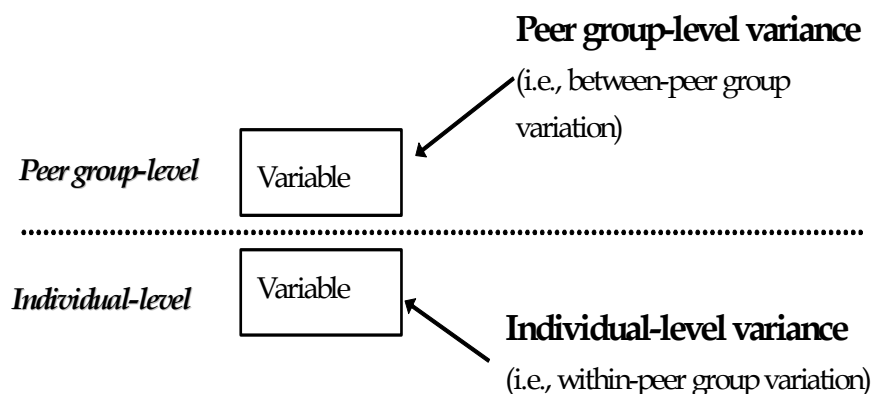
FIGURE 3   Illustration of the idea of multilevel modeling

Another aim of the present dissertation was to examine associations between the variables at the peer group-level. More specifically one objective was to examine whether the level of adjustment typical of a peer group would be associated with the educational expectations shared among the group's members. Moreover, the aim was also to examine whether peer group characteristics, such as academic achievement and family background, typical of peer group would predict the educational trajectories shared among peer group members. Multilevel modeling is an ideal tool also in seeking answers research questions of this kind as it enables observed and latent predictors to be added at both the within-and between-levels (Heck, 2001). The results obtained

on the different levels provide different kinds of information, as distinct covariance structures exist at different levels (Muthén, 1994). For example, the factor structures of associations between the variables can be different at different levels.

Finally, the present dissertation aimed to examine the effects of peer group influence and selection on school burnout. Multilevel latent growth modeling (MLGM; Muthén & Muthén, 1998-2006, see also Duncan et al., 1997) enabled us to examine whether adolescents belonging to the same peer group share similar changes with regard to school burnout; in other words, whether peer group members are influenced by each other's school burnout. In addition the difference between intraclass correlations between two time points was calculated and its statistical significance examined to determine whether peer group homogeneity increased over time (i.e., further evidence for peer group influence). Only peer groups that remained stable between measurements were included in the analyses on peer group influence, since it was assumed that peer group influence can operate only if peer groups exist. Peer group selection, in turn, was examined by calculating intraclass correlations at Time 1 and Time 2 for new peer groups formed between the measurements. It was assumed that if the adolescents in the new peer groups at Time 2 were already similar at Time 1, or if they changed in a similar direction, this would provide evidence for peer group selection. Also, more individual analyses of peer group selection were carried out. The *t*-test of independent samples was used to examine whether the adolescents who changed their peer groups differed more from their peer group at Time 1 in comparison to those adolescents who stayed in the same group, and the paired-sample *t*-test was used to examine whether the adolescents who changed their peer group resembled their peer groups more at Time 2 than their peer groups at Time 1.

The analytical strategy and multilevel modeling technique used are described in detail in articles I-IV. All the Multilevel Analyses in this dissertation were carried out using the Mplus statistical Package (Version 3, Muthén & Muthén, 1998-2004; Version 4, Muthén & Muthén, 1998-2006) with the missing data method, that is, the standard MAR approach (*missing at random*) to missingness (Muthén & Muthén, 1998-2006). This missing-data method uses all the data that are available to estimate the model without imputing data. Because the majority of the variables were skewed, the parameters of the models were estimated using the *MLR* estimator. The *MLR* produces robust standard errors and a χ^2 -test statistic for missing data with non-normal outcomes by means of a sandwich estimator (Muthén & Muthén, 1998-2006).

2.2 Study 1: The role of peer groups in adolescents' educational expectations and adjustment

The aim of study I was to investigate whether the members of adolescents' peer groups share similar educational expectations, and whether overall and school-related adjustment are associated with these expectations. Gender differences were also examined.

Three hundred and ninety-four ninth-graders facing the transition to secondary education filled in questionnaires measuring their short-term and long-term educational expectations, and their academic achievement, learning difficulties, negative attitudes towards school, problem behavior, and self-esteem. Adolescents' peer groups were identified on the basis of positive nominations given to peers from the same class-room. Out of 394 adolescents only those who were peer group members, that is, 341 adolescents were included in the multilevel analyses. Adolescents' who did not belong to any peer group did less well at school and had lower short-term educational expectations compared to peer group members.

The results of the multilevel modeling showed that peer group members shared similar educational expectations. Among girls, adjustment typical of the peer group (i.e., academic achievement, problem behaviour, learning difficulties, negative attitude towards school) was associated with the group members' educational expectations. By contrast, among boys, only problem behavior typical of the peer group was associated with group members' educational expectations. These findings suggest that peer groups play an important role in how adolescents plan their future education; this in turn may have long-term consequences for their future life trajectories.

2.3 Study II: The role of peer groups in adolescents' educational trajectories

The aim of Study II was to extend the results obtained in Study I by investigating whether the members of adolescents' peer groups share similar educational trajectories after the transition to post-comprehensive schooling. Another aim was to examine the extent to which peer group characteristics, such as educational expectations, and family background typical of a peer group, would predict the group members' educational trajectories. The effect of gender was controlled for.

Six hundred and eleven adolescents out of 773 filled in a questionnaire focusing on their educational expectations, academic achievement and family background variables before the transition to post-comprehensive education. They were also asked to nominate three same-age schoolmates with whom they most liked to spend their time. After the transition seven hundred and twenty-

nine adolescents out of 773 reported the educational trajectory they were. Only peer group members at Time 1, that is, 530 adolescents, were included in the multilevel analyses. Adolescents who belonged to a peer group had better academic achievement, higher educational expectations, and a higher likelihood of being on the senior secondary school trajectory compared to adolescents who did not belong to any peer group.

The results of the multilevel modeling showed that adolescents who belonged to the same peer group at the end of comprehensive school shared similar educational trajectories later on. Peer group members resembled each other also in terms of their broader academic orientation, that is, how well they performed at school, whether they expected to enter senior secondary school or enter vocational school, and whether they in fact did so. Finally, the results showed that family background factors shared by peer group members predicted the academic trajectories typical of the peer group: peer groups, whose members typically came from a nuclear family and had a high SES background were likely to have a higher academic orientation than the other kinds of peer groups. These results provided longitudinal evidence for the role of peer groups and peer group characteristics in subsequent educational trajectories.

2.4 Study III: Peer group influence and selection in adolescents' school burnout: A longitudinal study

The aim of Study III was to investigate the extent to which peer group similarity in school burnout is due to peer group influence and the extent to which it is due to peer group selection. Moreover, the roles of academic achievement and gender in school burnout were examined both at the peer group level and at the individual level.

A total of 611 ninth-graders were examined at the beginning of the final term of comprehensive school (Time 1), and 614 at the end of the final term (Time 2). The participants answered questions concerning school burnout and peer relations at both time-points. Academic achievement and gender were measured at Time 1. A total of 148 peer groups were identified at Time 1, whereas the number of peer groups was 139 at Time 2. Only peer groups that remained stable (i.e., unchanged peer groups and peer groups that had new members at Time 2), that is, 75 peer groups were included in the analyses of peer group influence. In turn, only new peer groups formed between measurements, that is, 30 peer groups, were included in the analyses concerning peer group selection.

The results of the multilevel modeling showed, first, that peer group members resembled each other in terms of school burnout. Moreover, the results of the Multilevel Latent Growth Modeling showed that it was peer group influence specially that contributed to the peer group homogeneity in

school burnout. No evidence was found for the effect of peer group selection, although this may be due to the relatively short follow-up period and small sample size. Finally, the results showed further that high academic achievement protected peer group members against an increase in school burnout during the final term of comprehensive school. Overall, these results suggest that peer group members are influenced by each other's burnout at the end of comprehensive school, a period when adolescents are expected to make important choices concerning their future education.

2.5 Study IV: Peer group homogeneity in adolescents' school adjustment varies according to peer group type and gender

The aim of Study IV was to examine whether the members of adolescents' peer groups are similar in terms of their school adjustment and whether this homogeneity varies according to peer group type and gender. Moreover, the roles of peer group type and gender were examined in terms of mean level adjustment and maladjustment.

A total of 1494 adolescents who had recently moved to post-comprehensive education filled in questionnaires measuring their academic achievement, satisfaction with their educational choice, school engagement, and school burnout. They also gave positive peer nominations on the basis of which 360 peer groups were identified and categorized as cliques, loose groups, and isolate dyads. Only peer group members, that is, 1262 adolescents were included in the multilevel analyses. Peer group members showed more satisfaction with their school track compared with those who did no belong to any peer group.

As found previously, the results of the multilevel modeling showed that the members of adolescents peer groups resembled each other in terms of school adjustment. The results showed further that the members of cliques showed greater similarity with each other in terms of their satisfaction with their educational track and school engagement than did the members of loose groups. This effect was, however, found only among girls. Girls' isolate dyads were, in particular, at risk for low adjustment at school. The results suggest that cohesive peer groups are particularly important for girls. Girls also seem to be more vulnerable than boys for peer rejection/neglection in the larger peer network.

3 GENERAL DISCUSSION

Peer groups are among the most significant social contexts in adolescence (Brown, 2004; Magnusson & Stattin, 1998; Rubin et al., 1998). However, it is only during the recent years that greater attention has been paid on children' and adolescents' peer groups (e.g., Cairns et al., 1998; Ryan, 2001). The present dissertation examined the role of peer groups in adolescents' educational expectations and educational trajectories during the transition to post-comprehensive schooling, peer group influence and selection in adolescents' school-related burnout, and the role of peer group type in peer group homogeneity in school adjustment. The results of the dissertation suggest, in general, that adolescents who belong to the same peer group resemble each other in terms of a variety of factors relating to education. First, peer group members resembled each other not only in their educational expectations but also their subsequent educational trajectories. Second, peer group members resembled each other in their overall and school-related adjustment. Third, peer group members were similar in social background suggesting, that social stratification takes place partly also at the peer group-level. Fourth, the results provided evidence of peer group influence: adolescents belonging to the same peer group were influenced, in particular, by each other in relation to school burnout during the final term of comprehensive school. Finally, peer group type was found to play a role in peer group homogeneity: highly cohesive peer cliques showed more similarity compared to loose groups in school engagement and satisfaction with school track.

3.1 Peer group homogeneity

3.1.1 Educational expectations and educational trajectories

The results of this dissertation suggest that peer groups are important for both adolescents' educational expectations and for their educational trajectories later on. The results showed, first, that adolescents belonging to the same peer group

resembled each other in terms of their short-term and long-term educational expectations. These results reveal that alongside dyadic friendships (Hallinan & Williams, 1990; Kandel & Lesser, 1969), larger peer groups are also important contexts for how adolescents think about their future education (see also Cohen, 1977). Second, the dissertation expands previous research on educational careers by showing that peer groups identified at the end of comprehensive school played a role in adolescents' educational trajectories when they moved to the next stage of education: adolescents belonging to the same peer group at the end of comprehensive school tended to end up in closely similar educational trajectories.

There are two possible explanations for these findings. On the one hand, adolescents may select peer groups (e.g., Kindermann et al., 1996) whose members' attitudes towards future education resemble their own. Peer groups may also be more likely to accept members whose opinions are similar to those of other group members and reject those who have different views. On the other hand, peer group members may also influence each other's educational expectations and educational choices. For example, peers are important sources of future-related information for adolescents (Malmberg, 1996). Peer group members may actively advise each other in educational planning by providing guidance and by either encouraging or discouraging different alternatives (see also Eccles, 1994; Mau, 1995). Peer group members may also do school-related tasks and homework together (Leone & Richards, 1989) and thus support each other's performance at school and create a more realistic basis for shared educational goals and expectations in the peer group. However, peer group members may also act as role models for each other with regard to future-related decisions (Nurmi, 1991; Picou & Carter, 1976). Social comparisons, observational learning, and identification (e.g., Bandura, 1977; Suls & Wheeler, 2000), for example, are mechanisms that may come into play when adolescents belonging to the same peer group influence each other in less direct ways.

Another specific target of this dissertation was to examine whether the academic achievement and educational expectations typical of a peer group would predict the educational trajectories shared among its members. The results showed that adolescents belonging to the same peer group shared a broader academic orientation: that is, how well they performed at school, whether they expected to enter senior secondary or enter vocational school, and whether they in fact did so. For example, peer groups typified by a high academic orientation showed not only high levels of academic achievement and educational expectations but also a high likelihood of ending up on a senior secondary school trajectory. In turn, peer groups typified by a lower academic orientation showed low levels of academic achievement and educational expectations and a high likelihood of ending up on a vocational rather than senior secondary school trajectory. These findings extend previous research on peer groups in the academic domain by showing that besides homogeneity in individual characteristics adolescents belonging to the same peer group also resemble each other in their patterns of various academic behaviors.

Consequently, the academic orientation typical of the peer group to which they belong may potentially also have a long-term impact on individual adolescents' educational and vocational careers.

3.1.2 Overall- and school-related adjustment

This dissertation also examined whether adolescents belonging to the same peer group resemble each other in terms of overall and school-related adjustment. The results for peer group homogeneity in overall adjustment showed that adolescents belonging to the same peer group resemble each other in their external problem behavior. Similar results have been found in previous research (Cairns & Cairns, 1994; Ennett & Bauman, 1994; Ellis & Zarbatany, 2007: Espelage et al., 2003; Kiesner et al., 2003). In the present study external problem behavior was measured by using the indicators of drinking, smoking, drug use, and illegal acts.

There are at least two possible reasons for peer group homogeneity in external problem behavior. The first reason is that adolescents select their peer groups on the basis of how much problem behavior they show. For example, problem-behaving adolescents may seek the company of other like-minded adolescents. In other words, they may look for a peer group in which they will share experiences in drinking and committing delinquent acts. Drinking and antisocial acts are likely to be behaviors which adolescents prefer to do in the company of other adolescents rather than alone. The second reason for peer group homogeneity in external problem behaviour is group socialization, which has also previously been shown to play a role in external problem behavior (e.g., Ellis & Zarbatany, 2007; Espelage et al., 2003): spending time with aggressive or antisocial friends or in a peer group typified by high levels of problem behaviors tends to lead an increase in such behaviors. The results of the present and previous research are in accordance with reinforcement theories suggesting that deviant peers may provide a high degree of reinforcement for antisocial behavior and very little positive reinforcement for prosocial behavior (Elliott, Huizinga, & Ageton, 1985; Jessor & Jessor, 1977).

Aside from overall adjustment the results of the present dissertation also showed evidence for peer group homogeneity in school-related adjustment. Consistently with some previous studies peer group members resembled each other in their academic achievement (Chen et al., 2003; Ryan, 2001) and school engagement (see also Kindermann et al., 1996, Kindermann, 2007). The results expanded previous research showing that peer group members resembled each other also in perceived learning difficulties, negative attitudes towards school, school burnout, and satisfaction with educational track.

These results may again be due to two possible mechanisms. On the one hand adolescents' may select peer groups on the basis of academic adjustment. On the other hand, adolescents may reinforce each other's academic adjustment and possibly co-ruminate (see also Rose, 2002) on school-related difficulties and stress which, in turn, may lead to an increase in peer group similarity in school-related stress, attitudes and perceived learning difficulties. Evidence for peer

group homogeneity in negative attitudes towards school and perceived learning difficulties was, however, found only among girls.

The results of the dissertation showed further that adjustment typical of a peer group was associated with the educational expectations shared among the peer group's members. In other words, peer groups typified by low levels of adjustment also shared low expectations regarding their future education and vice versa. This result may be explained by differences in peer group norms, values, and standards (e.g., Brown, 1990). For example, in peer groups that are typified by high academic competence, reciprocal support from other group members may further promote academic achievement and possibly also decrease norm-breaking behavior. In turn, the members of peer groups typified by antisocial and anti-school attitudes may encourage each others' negative attitudes and tendency to prefer norm-breaking behaviors and out-of-school activities. These results are not only consistent with the theory of problem behaviors (Jessor & Jessor, 1977) but also extend it by showing the role that adolescents' peer groups play in such behavior. As far as we know no earlier studies have examined how different problem behaviors and problems in school adjustment are associated at the peer group-level. The theory of problem behaviors (Donovan & Jessor, 1985; Jessor & Jessor, 1977) suggests that that a variety of high-risk activities and problem behaviors tend to cluster or co-occur among adolescents, that is, adolescents who have difficulty in some areas of their life are also likely to have difficulties in other areas (for empirical results see also Bryant, Schulenberg & O'Malley, 2003; Dryfoos, 1990; Jessor & Jessor, 1977). Our results suggest that the clustering of problem behaviors is a phenomenon that takes place also at the peer group level. It is likely that adolescents belonging to peer groups characterized by both anti-school- and antisocial attitudes are at largest risk for problems in future adjustment and academic careers.

3.1.3 Social background

The results of this dissertation showed that peer group members resembled each other also in terms of family background: adolescents belonging to the same peer group tended to come from similar families with regard to socioeconomic status (SES). Peer group selection is a likely explanation for this result, as it is unlikely that peer group members could influence each other's SES background. At least, two mechanisms may contribute to the selection of peer groups on the basis of similar SES background. First, adolescents coming from a similar SES background are likely to share similar attitudes and values about life, education, and work and thus be attracted to each other. They may also share a similar household economy: the families of adolescents coming from a lower SES background may have experienced more economic difficulties. Second, parents may also actively encourage their children to have relationships with peers who share their values, especially those related to achievement (Wentzel & Feldman, 1993; Williams & Radin, 1993).

Peer group similarity was found, however, only in fathers' SES. One explanation for this result may be that fathers' SES is still the main factor determining a family's economic wealth. Mothers SES background, in turn, may be more diverse and thus less determining for a family's economic wealth. For example, although the majority of women in Finland are in working life, compared to men their work careers are less stable and on average they earn less (e.g., Lehto, Lyly-Yrjänäinen, & Sutela, 2005; Virtanen et al., 2007)

The results of this dissertation showed further that peer group members resembled each other also in their family structure, that is, whether they come from nuclear families or non-nuclear families. There is at least one possible explanation for this result. Adolescents whose family has broken up may seek each other's company for comfort, support, and experience-sharing. For example, previous research has suggested that low income and financial strain may be more frequent, the level of psychological stress higher, and family atmosphere poorer in non-nuclear families (Gutman & Eccles, 1999). Alternatively, adolescents from nuclear families may prefer to hang out together and avoid adolescents whom they know to come from less traditional families.

The family background (i.e., family SES, family structure) typical of a peer group was also found to play a role in the broader academic orientation shared among the peer group's members. The results showed, first, that peer groups characterized by a nuclear family and high SES background were more prone to have high academic achievement, high educational expectations, and a high likelihood of continuing on an academic track than the groups typified by single parenthood/remarriage and low SES background. These results suggest that family background factors play a significant role in adolescents' academic orientation and educational trajectories, and that these mechanisms partly operate at the peer group level. Adolescents who come from less favorable family backgrounds and have lower academic achievement have a tendency to end up in the same peer groups. Memberhip of such peer groups may further reinforce low academic expectations among these adolescents and lead later on to a non-academic educational trajectory. Similar mechanisms may operate also in the case of a high SES background and high academic achievement.

3.1.4 The magnitude of peer group homogeneity in different characteristics

Overall, the results of the present dissertation indicated that, even though adolescents belonging to the same peer group may resemble each other in terms of a variety of factors relating to their education and adjustment, the magnitude of peer group homogeneity varied considerably from one characteristic to another. This result is consistent with the notion made by Hartup and Stevens (1997), who suggested that peer processes are likely to operate differently across different behaviors. Consequently, the results obtained for one behavior may not apply directly to other behaviors or characteristics.

The results of this dissertation suggest that peer group members resemble each other particularly closely in, on the one hand, their educational expectations and educational trajectories, and, on the other hand, their external problem behavior. In both cases approximately one third of the total variation was explained by peer group level. This result differ from the results of some previous studies concerning friendship pairs (for a review, see Kandel, 1996) which have suggested that peer group homogeneity is greater in problem behaviors than in other domains. Our results suggest that peer groups are equally important in the academic career-related domain as in external problem behavior. Overall, the results of the present dissertation concerning peer group homogeneity support those obtained by Kandel (1978) and Werner and Parmelee (1979), who suggested that peer similarity tends to be larger in visible behaviors and shared activities than in attitudes, values, and personality (see also Urberg et al., 1998).

3.2 Evidence for peer group influence and selection

One aim of the present dissertation was to examine the processes of peer group selection and influence in the school context. Peer group selection refers to the tendency of adolescents to seek company of like-minded peer groups, whereas peer group influence refers to the tendency of peer group members to reinforce each other's similar attributes over time.

3.2.1 Peer group influence

The results of the present dissertation showed evidence for peer group influence in school burnout: peer group members both shared similar changes in school burnout and showed increasing resemblance to each other over time. These results extend those of previous research suggesting that, aside from external (e.g., Burk et al., 2007; Cairns & Cairns, 1994; Ellis & Zarbatany, 2007) and internal problem behavior (e.g., Hogue & Steinberg, 1995), peer groups also influence their members in school burnout. One possible explanation for the fact that peer group influence on school burnout was found during the final term of comprehensive school is that academic pressures are particularly high during that term as it is the last chance for students to improve their school-leaving grades. For example, in Finland, high school grades are required for admission to senior secondary schools and to some vocational schools after comprehensive school. These pressures may have lead to an increase in school burnout in some peer groups. Clearly there is a need for systematic research on peer group influence during a variety of other school transitions that include critical choices concerning future education.

There are several processes, such as co-rumination (Rose, 2002), observational learning (e.g., Bandura, 1977; Berndt, 1999; Suls & Wheeler, 2000)

and potentially, unconscious tendencies to conform, that may be responsible for peer group influence on adolescents' school burnout. For example, the members of peer groups typically discuss important matters in their lives (Malmberg, 1996). School-related stress and feelings of overload by schoolwork, might be assumed to be among the experiences that adolescents discuss in their peer groups. Frequent discussions of these matters may lead to co-rumination (Rose, 2002) about school-related stress and workload in some peer groups. In particular, brooding in the peer group, but not reflection (cf. Burwell & Shirk, 2007), may lead to higher levels of school burnout, including cynical attitudes towards school and sense of inadequacy as a student. Similarly, if some members of a peer group feel overwhelmed by their educational demands, they may communicate their school burnout to other group members, thereby increasing the likelihood that the latter will feel the same. Peer group members may also reciprocally reinforce and increase each other's burnout in their mutual communication. Pressures to conform may operate less directly in the case of school burnout. Although it is unlikely that a peer group will overtly expect school burnout from their members, it is possible that an increase or a decrease in burnout shared in a peer group results from unconscious tendencies to conform to the attitudes and feelings typical of the peer group. Future studies should examine in more detail the mechanisms underlying peer group influence not only in school burnout but also in a variety of internalized problem behaviors (see also Hogue & Steinberg, 1995).

Peer group influence was also investigated in relation to adolescents' educational expectations during the final term of comprehensive school. Peer group homogeneity in educational expectations was, however, found to be high and stable: no evidence for peer group influence was found. This result may partly be explained by the predominant group norms. As pointed out by Cohen (1977) high peer group similarity may encourage staying the same, whereas low peer group homogeneity may encourage members to change so as to achieve greater similarity. It is, however, very possible that peer group influence on educational expectations concerning the next stage of education had already come into play before the present study was started. In the future, more long-term longitudinal studies need to be conducted on peer group influence in adolescents' educational expectations.

3.2.2 Peer group selection

The present dissertation also examined peer group selection in relation to school burnout among new peer groups formed between measurements during the final term of comprehensive school. The results showed, however, no evidence for the selection effect. There may be four potential explanations for this result. First, peer group selection may not play any role in school burnout. Second, it is also possible that some peer group selection in this domain had already occurred before the first measurement, as peer group members resembled each other in terms of school burnout to some extent already at the beginning of the study. Third, low power due to the relatively small number of

new peer groups may have had an impact on the results. Fourth, the strength of the selection effect may differ across different modes of peer group selection. For example, initial peer group selection (i.e., after a school transition when practically all peer groups are reformed) may be a particularly powerful form of selection as it is largely based on voluntariness. Usually similarity attracts individuals, because those who are alike in key characteristics have an adequate basis for interaction (Cairns & Cairns, 1994). The reasons underlying reselection or deselection of peer groups, in turn, may be more diverse: some adolescents may be able to join in a group that they admire, whereas some other adolescents may be "forced" to join a less preferred peer group if they are no longer tolerated in their original peer group. In fact, our more recent analyses of peer groups after the transition to post-comprehensive schooling (i.e., the moment of reconstruction of all peer groups) have provided evidence for the importance of peer group selection. These findings apply not only to school burnout but also to other aspects of subjective well-being, such as depression, self-esteem, and life satisfaction (Kiuru, Nurmi, & Salmela-Aro, 2007). Adolescents belonging to the same peer group after the transition resembled each other both before and after the transition with respect to different aspects of subjective well-being. Further studies are needed on the relative importance of peer group influence and selection on adolescents' school burnout and broader well-being.

The results of the present dissertation also showed some indirect evidence of peer group selection in relation to family background, satisfaction with educational track, and academic orientation. First, peer group selection is a likely explanation for peer group homogeneity in family background, as it is unlikely that peer group members could influence this variable. These results suggest that the social stratification process operates partly at the peer group level. Second, peer group selection is also a likely explanation for peer group homogeneity found in adolescents' academic orientation, as only little change in educational development occurred at the peer group level between the last grade of comprehensive school and the choice of post-comprehensive education trajectory. High-achieving and ambitious students who also ended up on a senior secondary school trajectory tended to spend time together. In this case, the peer group selection explanation does not exclude the possibility of peer group influence before the present study was started. Third, peer group selection is also a likely explanation for peer group homogeneity in satisfaction with educational track after moving to post-comprehensive schooling, as peer groups were measured only half a year after the transition (the moment of reconstruction of peer groups). After peer group selection, partly on the basis on similarity in satisfaction with educational track, peer group influence may start to operate. For example, spending plenty of time with other adolescents who show low satisfaction with their educational track may further encourage negative attitudes and potentially increase risk for drop-out.

In the future, more dynamic and process-oriented research on both processes of peer group influence and peer group selection is needed. For

example, the very recent advances in SIENA program (Snijders, Steglich, Schweinberger, & Huisman, 2006) provides new and promising tools for investigating peer group processes on the level of the whole peer network in more process-oriented way (e.g., Burk et al., 2007; Snijders, Steglich, & Schweinberger, 2007). Moreover, more attention should be paid not only to the timing of peer group selection and influence but also to different forms of peer group selection and influence. For example, in addition to different forms of peer group selection (earlier discussed in this section) peer group influence itself may also differ according to its strength in the different life phases of peer group, such as initiation, maintenance, and dissolution. Previous research has found some evidence suggesting that, in the initiation phase, peer group members may be particularly motivated to conform with each other. For example, individuals may change their behavior to facilitate entry into a group (Aloise-Young, Graham, & Hansen, 1994; Dishion, Spracklen, Andrews, & Patterson, 1996). In turn, before the moment of dissolution of a peer group homogeneity among the members may be particularly low (e.g., Kandel, 1996). Finally, although peer group influence and selection processes can be separated on the conceptual level, it is important to remember that they are most likely to operate in a reciprocal way (Cairns & Cairns, 1994; Urberg et al., 2003).

3.3 Peer group type

The present dissertation also examined whether different kinds of peer groups differ in group homogeneity in relation to school adjustment and maladjustment. The group types explored were cliques, loose groups, and isolate dyads.

3.3.1 Peer group type and group homogeneity

The results showed that peer group homogeneity varied according to group type: the members of cliques resembled each other more in satisfaction with their educational track and school engagement than did the members of loose groups. There are at least two potential explanations for this result. First, adolescents may be particularly motivated to conform to their peer group when the group members share intensive ties with each other. Levels of trust, social support (Berndt, 1989, 2002; Hallinan & Williams, 1990) and sense of belonging (Brown, 1989) can be assumed to be higher in highly cohesive peer groups compared to less cohesive peer groups. Second, the members of highly cohesive peer groups may interact on a more regular basis (cf. flow of norms and information, Moody & White, 2003) than less tightly connected peer groups. The difference between cliques and loose groups in terms of peer group homogeneity was, however, found only among girls. This result suggests that peer group cohesion may play a particularly important role among girls.

The results showed further that, except for academic achievement, the members of isolate dyads showed no peer group homogeneity with regards to their school adjustment and maladjustment. One explanation for this result is the fact that the members of isolate dyads have had to spend a substantial amount of time with each other, as they have not been accepted into other groups. Consequently, they may have not chosen each other on the basis of similarity and they may also be less motivated to conform to each other than are the members of other types of groups.

Future studies should explore the potential differences in magnitude of and susceptibility to peer group influence and selection between different types of groups.

3.3.2 Peer group type and level of adjustment

Overall, the results of the dissertation showed that isolate dyads, although only in the case of girls, were at larger risk for low adjustment compared to adolescents belonging to the other peer group types. The results for adolescents who did not belong to any peer group resembled the results of isolate dyads: they showed lower academic achievement and educational expectations compared with the adolescents who were members of a peer group. This result is consistent with some previous studies showing that peer group membership predicts high academic achievement and motivation (Brown, 1989; Wentzel & Caldwell, 1997; Wentzel et al., 2004). In accordance with the self-system theory (Connell & Wellborn, 1991) it looks as if students need a sense of community or connection to others in order to maximize learning, motivation, and engagement (see also Becker & Luthar, 2003; Osterman, 2000). The results for both isolates and isolate dyads may be partly due to the fact that isolation or the absence of a peer group is associated with peer rejection and victimization (Salmivalli, Huttunen, & Lagerspetz, 1997). A large body of research has shown that peer rejection predicts low academic achievement and school adjustment (Buhs & Ladd, 2001; Ladd, 2003; Parker & Asher, 1987; Wentzel & Asher, 1995; Zettergren, 2003), emotional distress (Harter, 1990; Hogue & Steinberg, 1995), and subsequent adjustment difficulties (Bagwell et al., 1998; Coie et al., 1995; Ladd, 1999; Parker & Asher, 1987).

The results showed further that peer group membership also played a modest role in adolescents' school adjustment after the transition to post-comprehensive schooling (i.e., the moment of reconstruction of peer groups): Peer group members showed higher satisfaction with their school track compared to adolescents who did not belong to any peer group after the transition. In the other adjustment variables no differences were found. Low satisfaction with educational track among non-group members may be the first consequence of difficulties in becoming integrated in a new peer group after the transition to the new learning environment. If lack of integration into a peer group continues over a longer period, academic achievement and motivation may also begin to decrease (see also Ladd & Toop-Gordon, 2003).

3.4 Peer groups, gender, and school

The present dissertation examined also gender differences, on the one hand in peer group homogeneity and peer group level-associations, and on the other hand in the level of academic characteristics and adjustment.

3.4.1 Gender differences in peer network structure

The results showed consistent gender differences in the structure of the peer network. First, girls were more likely than boys to belong to a peer group. Moreover, the results showed further that girls' peer groups were more cohesive than those of boys: girls were more likely than boys to belong highly cohesive peer cliques, whereas boys were more likely to belong to less connected loose groups. These results are in accordance with some previous studies showing that girls tend to have more reciprocal friendship choices (Berndt & Hoyle, 1985; Epstein, 1983) and to be more connected to their peer network compared to boys (e.g., Urberg et al., 1995). The two gender cultures theory (e.g., Maccoby, 1998) is one potential explanation for these results. The tendency of girls' to be more interpersonally oriented and to show more disclosure in their peer relations compared to boys may also lead to tighter connections to the peer network.

However, the results concerning gender differences in peer group size were different in the different data sets. In Sample 1, boys belonged to larger peer groups than girls, whereas in Sample 2 no statistically significant gender differences were found in this respect. One explanation for this difference in findings is that peer groups were measured in classrooms in Sample I and in whole schools in Sample 2. Overall, the results are consistent with those of previous research, suggesting that among adolescents there are either weak or no gender differences with regards to peer group size (see also Cairns & Cairns, 1994).

3.4.2 Gender differences in peer group homogeneity and peer group-level associations

Overall, the results of the present study showed a wider range of peer group homogeneity among girls compared to boys. In particular, the members of girls' peer groups resembled each other in terms of negative attitudes towards school and perceived learning difficulties, whereas peer group homogeneity was not found among boys in these characteristics. One possible explanation for these results is that, besides the fact that girls tend to attribute more importance than boys to peer group affiliation (e.g., Crockett et al., 1984), and show more self-disclosure than boys in their peer relations (e.g., Buhmester, 1990; McNelles & Connolly, 1999), they also attribute more importance to academic achievement compared to boys (see also Berndt & Miller, 1990). Consequently, in their peer groups girls may discuss and share opinions about academic-related matters

and worries more frequently than do boys in their peer groups. This may then lead to higher peer group homogeneity in school-related attitudes and perceived learning difficulties among girls' as compared to boys. In boys' peer groups, other matters than those related to the academic domain, may be in focus.

The results showed further that among girls adjustment typical of the peer group, such as academic achievement, negative attitudes towards school, perceived learning difficulties, and problem behavior, was associated with the educational expectations shared among the peer group members: the lower the adjustment, the lower also were educational expectations typical of the peer group. Among boys, only the problem behavior typical of the peer group predicted these expectations at the peer group level. Overall, these results are in accordance with those of some previous studies suggesting that peers are more influential in girls' educational planning than in that of boys. For example, girls more often than boys consult their friends in educational planning (Malmberg, 1996; Mau, 1995) and do homework with their friends (Leone & Richards, 1989).

The result suggesting that peer groups are particularly important in girls' educational planning may also partly be explained by peer group cohesion. First, as discussed earlier, girls were more likely than boys to belong highly cohesive peer cliques. Second, the results of the present research showed that the members of girls' peer cliques resembled each other more in school adjustment than did the members of girls' loose groups. This effect was not found among boys. Consequently, highly cohesive peer groups seem to be particularly important for girls. Highly cohesive peer groups are likely to be characterized by high quality relationships and a high level of social support between the members. These features of peer groups may have particular importance for adolescent girls (see also Leadbeater, Kuperminc, Blatt, & Hertzog, 1999). Girls belonging to highly cohesive peer groups may also consult each other more frequently in terms of academic matters, feelings and decisions than is the case in less cohesive peer groups.

3.5 Academic orientation and family background at the individual level

Overall, the results at the individual level showed that the higher the adolescents' academic achievement and the more senior secondary school expectations they had before the transition, the more likely they were to embark on a senior secondary school trajectory after the transition. The association between academic achievement and educational trajectory was partly mediated via educational expectations. Overall, these findings are consistent with those of previous research showing that academic achievement (Carpenter & Fleishman, 1987; Savolainen 2001; Schnabel et al., 2002) and educational expectations (Lent

et al., 1994; Marjoribanks, 2003; Wilson & Wilson, 1992) are important predictors of adolescents' subsequent educational trajectories.

Family background was also found to predict adolescents' subsequent educational trajectories at the individual-level. Adolescents who came from nuclear families and from a high SES background were more likely to enter a senior secondary school trajectory than those who came from families typified by single parenthood/remarriage or a low SES background. These results are consistent with those of previous research (Coleman, 1966; Entwisle, Alexander, & Olson, 2005; Hansen, 1997; Kerckhoff, 1995). At least five possible and partly linked reasons may explain this result. First, family income levels tend to be lower among low SES families, which may restrict parents' ability to support their children's education financially (e.g., Fehrman, Keith, & Reimers, 1987; Schoon, Parsons, & Sacker, 2004; Schulenberg Vondracek, & Crouter, 1984). Second, parents with low SES may have lower academic ability than those with high SES (Moffit, 2005), which may be linked to their children's low level of academic skill. Third, parents who have made a career and achieved economic success may also act as role models of achievement for their children (Wentzel & Feldman, 1993). Fourth, the effect of SES on adolescents' educational trajectories may also be due to differences between social classes in values, attitudes, and social norms, which may then impact directly on children's values and interest concerning their future education (e.g., Bandura et al., 2001; Entwisle et al., 2005; Hansen, 1997; Hossler & Stage, 1992). Finally, although parents in all socio-economic status groups are likely to want their children to succeed, parents with higher socioeconomic status have been shown to be more active in their children's career choices and have higher expectations for their children's school performance and further education (Gutman & Eccles, 1999; Hanson, 1994; Juang & Silbereisen, 2002).

The results showed further that the effect of fathers' and mothers' SES on educational trajectories was mediated via adolescents' academic achievement. These results are in accordance with those of previous studies carried out on Finnish samples (Savolainen, 2001). However, the present results conflict with those obtained from American samples (e.g., Sewell, Haller, & Ohlendorf, 1970) suggesting that the impact of SES on adolescents' educational trajectories would be independent of individuals' academic achievement. The inconsistency between the results of this study and previous findings may be due to differences between Finland and the USA in their respective social structures and social systems. The fact that tuition is free at all levels of education in Finland and thus the level of the level of education received does not depend on the economic situation of the family is likely to strengthen the role of individuals' academic achievement in their selection of educational trajectories.

4   PRACTICAL IMPLICATIONS

Overall, the results of the research conducted for this dissertation suggest that peer groups in the school context play an important role in adolescents' educational expectations, adjustment, and educational trajectories. Next, the practical implications of the results will be discussed.

First, the results revealed that adolescents show a great tendency to spend time with peers who share similar educational goals to their own. As individuals are particularly concerned about other people's opinions and their own popularity (e.g., Fuligni & Eccles, 1993) and particularly susceptible to peer influence during adolescence (e.g., Berndt, 1979; Steinberg & Silverberg, 1986), one might conclude that the age of 15 may not be the optimal age for making important choices concerning one's future education. Choices made at the end of comprehensive school are likely to have a large cumulative effect on later educational and occupational trajectories and economic well-being. Consequently, effective student counseling has particularly high importance at the end of comprehensive school (see also Vuori, Koivisto, Mutanen, Jokisaari, & Salmela-Aro, 2007).

Second, the results showed that adolescents belonging to the same peer group not only closely resembled each other in terms of external problem behavior but that overall- and school-related problem behaviors tended also to cluster at the peer group-level. It is likely that the members of peer groups characterized by both antischool and antisocial attitudes and behaviors are at largest risk for negative outcomes in the future. One possibility for an intervention concerning problematic peer groups in the school context is to make an effort to change peer group composition annually by mixing adolescents with different levels of adjustment and educational expectations (see also Bagwell, 2004; Vitaro & Tremblay, 1994). Furthermore, targeting the whole peer network and utilizing peer group power are likely to be the most efficient way to carry out such interventions (see also Salmivalli, Kaukiainen, & Voeten, 2005). Another effective method may also be to utilize identified peer group leaders as agents of social change (see also Miller-Johnson & Costanzo, 2004). By contrast, trying to intervene in deviant behavior by creating a group that includes several aggressive or delinquent adolescents is not a

recommendable approach to prevention, as the more time deviant adolescents spend together the more they are likely to further reinforce each other's deviant behaviors (i.e., deviancy training; See Dishion et al., 1994; Dishion, McCord, & Poulin, 1999, see also Adams & Bukowski, 2005).

Third, the results showed that adolescents belonging to the same peer group were influenced by each other's school burnout during the final term of comprehensive school. This is the period when adolescents are expected to make important choices concerning their future education. Co-rumination (see also Rose, 2002) in the peer group over school-related stress and worries is a likely explanation for the increase of burnout in some peer groups. High levels of school-related school burnout, in turn, may undermine adolescents' academic achievement and educational goals. Consequently, there is an evident need to pay more attention to the role of peer groups in adolescents' well-being or ill-being at school.

Fourth, girls showed not only higher levels of academic achievement (see also Frome & Eccles, 1998; Fuligni et al., 2001) and school engagement (see also Berndt & Miller, 1990; Ryan, 2001), but also higher levels of school burnout compared to boys. Girls were also more vulnerable than boys to peer rejection in the larger peer network. Consequently, social support and membership in a cohesive and supportive peer group seems to be particularly important for adolescent girls, the implications being that special attention should be paid to girls' well-being at school.

Overall, the results of the present research suggest that when planning screening and interventions to promote adolescents' adjustment and attitudes towards acquiring higher education, it would be important to take peer group membership into account. In particular, attention should be paid to the dominant group norms and attitudes of peer groups, as they may either encourage or discourage academic-related activities and attitudes. If peer group membership is not taken into account there is a risk that peer contagion effects will undermine or reduce the overall prevention effects (see also Cho, Halfors, & Sanchez, 2005; Mager, Milich, Harris, & Howard, 2005).

5 LIMITATIONS

At least 7 limitations should be taken into account in any effort to generalize the results of this dissertation. First, the method used to measure peer groups allowed only three peer nominations. This may have artificially restricted the size of the peer groups. It is possible that, due to this procedure, some of the adolescents' peers were not nominated. However, allowing only three peer nominations emphasizes the choices of close peers, and therefore captures the most important peer group members. Second, each participant was allowed only one peer group. There is some evidence, however, that adolescents' can belong to several peer groups (Brown, 2004; Kindermann et al., 1996). In particular, among boys, whose peer networks are relatively loose and interconnected, the procedure used in the present study may have missed some peer group connections. As new techniques have been developed recently which provide a possibility to examine the membership in multiple peer groups simultaneously, such as the MLWin program (Rasbash, Steele, & Browne, 2005), such efforts would provide an important extension the existing research. Third, peer groups were studied only in the school context. Although typically adolescents mostly nominate peers in their schools (Ennett & Bauman, 1996), adolescents also have peers outside of school, such as in their neighborhood or in connection with sports or recreational activities. In this regard, the sole use of school-based data may underestimate the impact of adolescents' peer relations, as adolescents are likely to have friends and peer groups outside school as well (Kerr et al., 2007; Kiesner et al., 2003; Rubin et al, 1998). It can be assumed, however, that in-school peers will be the most influential for school-related adjustment, because they share similar school experiences. Fourth, in Study I, peer groups were identified in classrooms (i.e., Towards Working Life study), whereas in Studies II, III, and IV peer groups were identified in whole schools (i.e., Kuopio School Transition study). Consequently, the results obtained from Study I may not be directly comparable with the results obtained from studies II-IV.

Fifth, consistently with previous research (Bukowski, Gauze, Hoza, & Newcomb, 1993; Bukowski, Sippola, & Hoza, 1999; Furman & Buhrmester, 1992), our sample contained only a few peer groups with members drawn from

both sexes. Consequently, the small sample size did not allow mixed-gender peer groups to be examined in more detail. This task remains for the future.

Sixth, all the measures relating to education and adjustment included in the present study were based on self-report measures. However, self-reports are not always the most valid and reliable method of data collection (Shaffer, 2002). Although it can be assumed that subjective experience is particularly important in the case of constructs like school burnout, using self-reports to measure constructs like academic achievement, learning difficulties, and problem behavior may not be the optimal solution. It has been previously shown, however, that self-reported GPA correlates well with actual GPA among Finnish adolescents (Holopainen & Savolainen, 2005). Overall, there is clearly a need to replicate some of the findings of the present dissertation by using alternative data sources, such as criminal records for problem behavior, or the results of diagnostic tests for learning difficulties. Finally, using self-reports cannot exclude the possibility that some of the gender differences found may be partly due to gender differences in the ways of answering questionnaires. For example, girls' tendency to be better at and more productive in writing-related tasks compared to boys (Rosén, 2001) may have been reflected in the higher number of nominations given by girls. This might also have been partly reflected in the higher number of reciprocal nominations among girls.

6 FUTURE DIRECTIONS

The findings of the present dissertation also open some new avenues for future research. First, there is a need to clarify peer group processes at the micro-level by focusing on process-oriented and dynamic research methodologies (see also Burk et al., 2007; Steglich, Snijders, & Pearson, 2007). Second, peer group processes are in need of clarification at the macro-level. For example, it would be important to examine peer group influences in relative to the influences of other social contexts, such as parents and teachers. Finally, it would be important to examine the role of peer groups in adolescents' long-term development and across different cultures. Obtaining a deeper understanding of both the micro and macro processes operating in peer groups would provide not only tools for developing more comprehensive theory of the role of peer groups in individual development but also tools for developing more effective interventions in the case of problematic peer groups, such as peer groups typified by anti-school attitudes and antisocial activities.

6.1 Towards a deeper understanding of micro-processes operating in peer groups

Transactional theories of adolescent development suggest that adolescents both influence and are influenced by their social environments (e.g., Caspi, Bem, & Elder, 1989; Sameroff & Mac-Kenzie, 2003). It has been shown that peer groups vary extensively in properties, such as cohesiveness, hierarchy, group norms, stability, and heterogeneity or consistency between members (Rubin et al. 1998). However, little research has been conducted on precisely how peer group processes operate in different peer groups at the micro-level. For example, little is known about how and via what processes different types of norms, values, and styles of communication develop and are maintained in different peer groups. A deeper understanding needs to be gained on the role that the advice given, comparisons made, closeness in, and modeling in adolescents' peer

groups play in the processes through which the members of a peer group become to resemble each other in different behaviors. Examining adolescents in their peer groups in more idiographic ways, for example, by using diaries, an ethnographic approach, observations, and interviews may provide this kind of information. One promising line of research in relation to questions of peer processes concerns the domain of delinquency among friendship dyads. For instance, Dishion and colleaques (Dishion et al., 1996) have examined deviance training by videotyping the conversations of adolescent boys and their friends in a laboratory setting and then coding these conversations as to normative talk and rule-breaking talk. Similarly, examination of daily interactions among peers occurring in natural settings would increase our understanding of how peer groups function.

Second, there is also a need for more person-oriented research on peer groups, given the fact that it is not only individual variables but also their constellations that may make a difference. For example, potential moderators, such as group size, stability, cohesion, hierarchy (Rubin et al., 1998), the status of peer group in larger peer network (Ellis & Zarbatany, 2007; Gest, Graham-Bermann, & Hartup, 2001), group norms (Salmivalli & Voeten, 2004), and attributes and behavioral characteristics should be studied in more detail. Although some studies have already been carried out, there remains a need for more systematic and integrative research concerning the potential moderators involved in peer group processes in respect of different behaviors and characteristics. Moreover, peer group processes may also operate differently for different individuals. Hence the role of various individual differences in the ways in which peer group processes operate for different individuals would merit closer attention. For example, subjective importance of peer group (Kiesner, Cadinu, Poulin, & Bucci, 2002), the individual's position in the group or in the network (Crosnoe & Needham, 2004; Haynie, 2001), genetic factors (e.g., Scarr, 1992; Scarr & McCartney, 1983), and factors relating to individual history are likely contribute to individual differences in peer group effects.

6.2 Towards a deeper understanding of the macro-processes operating in peer contexts

A variety of macro-processes operating in peer contexts await clarification. In particular, a broader contextual analysis is needed for a better understanding to be gained of the role that adolescents' peer groups play in their members' long-term development. First, several researchers (for a review, see Magnusson & Stattin 1998) emphasize the importance of carrying out systematic analyses of the target phenomenon at different levels. As suggested, for example, by Brown (1989) and Rubin et al., (1998), peer relations take place at multiple levels. Consequently, an important future direction in the research on peer groups would be to carry out systematic research in which the results gained from the

peer group level would be related to the results gained from other levels of analysis of peer relations, such as, friendship pairs and larger peer crowds.

Second, the effects of peer groups and networks in the relation of other social contexts, such as, parents, siblings, other relatives, romantic partners, and teachers are in need of examination. The majority of the earlier research has examined only one social context at time or maximum two, such as peers and parents (e.g., Kandel, 1996; Brown, Mounts, Lamborn, & Steinberg, 1993). In only a very few studies have multiple social contexts been simultaneously examined (see also Kerr et al., 2007). Third, it would be important to examine the role of peer groups in adolescents' life-span development. Although it is known that peer groups form a highly important social context during adolescence, only little is known about whether peer groups have more long-term effects on adolescents' adjustment and future trajectories across the life-span.

Fourth, it would also be important to examine possible cultural differences in peer group processes. Despite the importance of peer relations in diverse cultures and historical periods, only a few cross-cultural studies have been carried out on this topic (Bukowski, Adams, & Santo, 2006; Rubin, 2007). Among such exceptions a cross-cultural comparison on friendship has been conducted between young people in Indonesian and in the United States (French, Pidada, & Victor, 2005). The results suggested that there were cultural differences in friendships. Friendships among Indonesian young people were somewhat less close and more extensive and less exclusive than they were among young people in the USA. With regards to peer group-level effects and processes, research on cultural differences is almost wholly lacking. Overall, there is a need for more systematic cross-cultural comparisons where the validity of models is tested across diverse populations. Finally broader theory-building on cultural differences in peer relations is needed.

7 CONCLUSION

The results of the research conducted for this dissertation suggest, in general, that adolescents who belong to the same peer group resemble each other in respect of their overall and school-related adjustment as well as their educational expectations and the subsequent trajectories they enter during the transition to post-comprehensive education. Academic achievement and adjustment were found to provide a basis for educational expectations and trajectories on the peer group level. Peer groups were also similar in terms of their social background, suggesting that social stratification also takes place partly at the peer group level. Evidence of peer group influence was found, in particular, for school burnout.

TIIVISTELMÄ

Nuorten toveriryhmien rooli kouluympäristössä

Tämän väitöskirjatutkimuksen tavoitteena oli tutkia toveriryhmien merkitystä yhtäältä nuorten koulutussuunnitelmissa ja koulutuspoluissa ja toisaalta koulusopeutumisessa siirtymävaiheessa toisen asteen koulutukseen. Tutkimus toteutettiin kyselylomaketutkimuksena ja se perustui kahteen aineistoon. Ensimmäisen otoksen aineisto (N = 394) oli peräisin *Kohti työelämää* -tutkimusprojektista (Vuori ym. 2003) ja toisen otoksen aineisto (Otos 2a: $N \sim 650$, Otos 2b: N = 1494) *Koulutussiirtymät Kuopiossa* -tutkimusprojektista (Salmela-Aro ym. 2003). Kyselylomakkeet sisälsivät osioita liittyen nuorten koulutussuunnitelmiin, koulutuspolkuihin, sopeutumiseen, sosiaaliseen taustastaan sekä toverisuhteisiin. Toveriryhmät muodostettiin positiivisten kaverimainintojen perusteella. Pääasiallisena analyysimenetelmänä käytettiin monitasomallintamista, jonka avulla voitiin tarkastella samanaikaisesti toveriryhmätason ja yksilötason vaikutuksia.

Ensimmäisessä osatutkimuksessa tarkasteltiin muistuttavatko samaan toveriryhmään kuuluvat nuoret toisiaan koulutusennakointien suhteen. Lisäksi oltiin kiinnostuneita sukupuolieroista sekä siitä, että onko toveriryhmälle tyypillinen sopeutuminen yhteydessä ryhmän jakamiin koulutussuunnitelmiin. *Toisen osatutkimuksen* tavoitteena oli laajentaa ensimmäisen osatutkimuksen tuloksia tutkimalla päätyvätkö peruskoulun viimeisellä luokalla samaan toveriryhmään kuuluvat nuoret samanlaisille koulutuspoluille siirryttyään toisen asteen koulutukseen. Lisäksi tarkasteltiin ennustavatko toveriryhmän ominaisuudet kuten ryhmälle tyypilliset koulutusennakoinnit ja perhetausta ryhmän jäsenten myöhempiä koulutuspolkuja. *Kolmannessa* osatutkimuksessa tutkittiin toveriryhmiin valikoitumis- ja ryhmävaikutusprosesseja kouluuupumuksessa peruskoulun viimeisen lukukauden aikana. Yhtäältä tavoitteena oli selvittää, missä määrin nuoret valitsevat uusia toveriryhmiä kouluuupumukseen liittyvän samanlaisuuden perusteella. Toisaalta tavoitteena oli selvittää, missä määrin samaan toveriryhmään kuuluvat nuoret vaikuttavat toistensa koulu-uupumukseen (vrt. ryhmäsosialisaatio). *Neljännen osatutkimuksen* tavoitteena oli sen sijaan tutkia, että vaihteleeko toveriryhmän sisäinen samanlaisuus koulusopeutumisessa toveriryhmätyypin ja sukupuolen suhteen.

Tulosten perusteella voidaan todeta, että samaan toveriryhmään kuuluvat nuoret muistuttavat toisiaan useiden tekijöiden suhteen. Ensinnäkin toveriryhmien jäsenet muistuttivat toisiaan sekä koulutussuunnitelmien että peruskoulun jälkeisten koulutuspolkujen suhteen. Toiseksi toveriryhmien jäsenet muistuttivat toisiaan yleisen ja kouluun liittyvän sopeutumisen suhteen. Kolmanneksi toveriryhmän jäsenet muistuttivat toisiaan perhetaustan suhteen. Lisäksi tulokset osoittivat, että samaan toveriryhmään kuuluvat nuoret eivät muistuttaneet toisiaan ainoastaan yksittäisten piirteiden ja käytösten suhteen vaan ryhmän jäsenet muistuttivat toisiaan myös laajempien piirreyhdistelmien

kuten laajemman akateemisen orientaation suhteen. Toveriryhmän jäsenten ja-kaman akateemisen orientaation voidaan ajatella edustavan ryhmälle tyypillisiä normeja ja asenteita koulutusta kohtaan ja sillä saattaa olla pitkä-aikaisempia vaikutuksia nuorten koulutuspolkuihin. Myös erilaiset yleiseen sekä kouluun liittyvään sopeutumiseen liittyvät ongelmat näyttivät kasaan-tuvan toveriryhmätasolla: toveriryhmillä, joiden jäsenten sopeutuminen oli heikkoa, myös tavoitteet tulevan koulutuksen suhteen olivat alhaisemmat verrattuna paremmin sopeutuviin toveriryhmiin.

Tulokset osoittivat edelleen, että toveriryhmän jäsenet vaikuttivat toistensa koulu-uupumukseen: samaan ryhmään kuuluvat nuoret sekä jakoivat sa-manlaisia muutoksia että tulivat samanlaisemmiksi koulu-uupumuksen suhteen. Myös toveriryhmätyypillä oli merkitystä ryhmien sisäisessä samanlai-suudessa: tiiviiden toveriklikkien jäsenet muistuttivat toisiaan enemmän kuin löyhempien toveriryhmien jäsenet koulumotivaation ja koulutuspaikkaan tyytyväisyyden suhteen. Ne nuoret, jotka eivät kuuluneet mihinkään toveriryhmään, kärsivät useammin ongelmista koulusopeutumisessa kuin toveriryhmään kuuluvat nuoret. Väitöstutkimuksessa löydettiin myös lukuisia sukupuolieroja. Toveriryhmillä oli tärkeämpi rooli tyttöjen koulutussuun-nittelussa poikiin verrattuna. Lisäksi tytöt yleisesti menestyivät koulussa poikia paremmin ja olivat poikia paremmin motivoituneita koulunkäyntiin. Tytöt kuitenkin myös kärsivät poikia useammin koulu-uupumuksesta.

Yhteenvetona voidaan todeta, että toveriryhmilla on varsin tärkeä merkitys nuorten koulutussuunnitelmissa, koulutuspoluissa ja koulusopeutu-misessa. Tuloksilla on useita käytännön implikaatioita. Suunniteltaessa interventioita nuorten sopeutumisen ja koulutustavoitteiden edistämiseksi olisi tärkeä huomioida myös toveriryhmän jäsenyys. Erityistä huomiota tulisi kiinnittää kussakin ryhmässä vallitseviin normeihin ja asenteisiin. On todennäköistä, että toveriryhmät, joille on tyypillistä koulun ja yhteiskunnan vastaiset asenteet, ovat erityisessä vaarassa tulevaisuuden sopeutumista ja koulumenestystä ajatellen. Lisäksi suomalaiset tytöt näyttävät reagoivan poikia negatiivisemmin koulutyöhön liittyviin paineisiin ja olevan poikia haavoittu-vaisempia toverihyljeksinnälle. Nuorten tyttöjen hyvinvointiin koulussa tulisikin kiinnittää jatkossa erityistä huomiota.

Yleisesti ottaen suomalaiset peruskoulut soveltuvat hyvin riskinuorten seulontaan ja tunnistamiseen, koska kaikki nuoret riippumatta perhetaustasta tai perheen taloudellisesta asemasta käyvät läpi saman peruskoulutuksen. Suunniteltaessa toveriryhmiin liittyviä interventioita yksi vaihtoehto on pyrkiä muuttamaan ryhmien koostumusta siten, että nuoria, jotka eroavat toisistaan sopeutumisen ja koulutustavoitteiden suhteen rohkaistaan työskentelemään ja viettämään aikaa yhdessä esimerkiksi jonkin yhteisen tavoitteen saavutta-miseksi. Avainasemassa on koko toveriverkostoon ja sen koostumukseen vai-kuttaminen. Useiden ongelmanuorten sijoittamista samaan ryhmään kannattaa sen sijaan välttää, sillä tällöin on olemassa riski siihen, että "tyhmyys tiivistyy ryhmässä" ja nuorten ongelmat lisääntyvät entisestään.

Väitöskirjan tulokset herättävät myös useita mielenkiintoisia jatko-tutkimusaiheita. Tulevaisuudessa olisi tarve selventää entistä tarkemmin toveriryhmissä tapahtuvia prosesseja ja niitä mahdollisesti välittäviä ja muun-tavia tekijöitä. Lisäksi olisi selvä tarve integratiiviselle tutkimukselle, jossa toveriryhmien vaikutusta tutkittaisiin samanaikaisesti useiden muiden sosiaalisten ympäristöjen kuten vanhempien, sisarusten ja seurustelukump-paneiden vaikutuksien kanssa. Edelleenkin tulevaisuudessa olisi tärkeä toteuttaa toveriryhmiin liittyviä pidempiaikaisia pitkittäistutkimuksia sekä tarkastella mahdollisia kulttuurieroja. Lupaavaa on myös hiljattain tapahtunut menetelmällinen kehitys, joka alkaa mahdollistaa entistä prosessiorientoitu-neemman ja dynaamisemman sosiaalisten verkostojen tutkimuksen.

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