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How Context and the Perception of Peers' Behaviors Shape Relationships in Adolescence

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CHAPTER 1

Introduction

1.1 Adolescents' peer relations in schools

Social relationships play a crucial role in adolescents' development. Peer relationships become more frequent and prominent during adolescence (Giordano, 2003; Johnson et al., 2011). In this developmental phase, peers become an important point of social reference as adolescents spend a large part of their time interacting and socializing with peers (Card & Schwartz, 2009) and increasingly attend to the expectations and opinions of peers. During adolescence, it becomes increasingly important to fit in with a group, to be accepted and well regarded by peers, as well as to gain a position within the peer group. For instance, when forming peer relationships such as friendships or help, adolescents grow more sensitive to their implications for their status within the broader peer system. Moreover, frequent contact, common activities, and intimate relationships among peers provide extensive opportunities for adolescents to learn from others as well as to obtain social support to cope with emotional stress and adjustment difficulties (Hartup, 1992; Rubin et al., 1998). These features make adolescence an especially crucial and interesting period to study peer relationships.

The rise of peer relationships in adolescence confers to this period specific characteristics. First, *peer relationships are complex and intertwined*. Social relationships among adolescents are not only positive, such as friendship and helping relations, but also negative, such as victimization and disliking. Moreover, different types of relationships tend to be interdependent. For instance, the association between friendships and helping relationships is bidirectional, that is, not only friendships may give rise to help, but also help may contribute to the establishment of friendships (Van Rijsewijk et al., 2016, 2019; Wentzel & Erdley, 1993). Altogether, this raises the question: How are different types of peer relationships interrelated?

Second, *peer relationships emerge in a larger peer context*. The classroom environment arguably provides the most immediate and relevant context defining adolescent's behaviors and peer relationships. The classroom is a relevant social context for studying different types of peer relationships because students, as members of a particular classroom, spend most of their school time with their classmates, playing, talking, and working together. Classrooms are likely to affect the way behaviors and relationships are evaluated and appreciated (Dijkstra & Gest, 2015). Features of classrooms such as their composition (e.g., students' ability composition) and social norms can shape peer relationships by fostering and limiting the social comparisons and interactions among classmates (Marsh et al., 2008), and, by promoting positive relationships, respectively (Schacter & Juvonen, 2018). This dissertation focuses on the question: How do peer context shape peer relationships?

Third, *status becomes a crucial element of adolescent peer relationships*. Hierarchies emerge within the peer system with certain individuals and groups having more status than others in dimensions such as popularity and likeability (Brown et al., 2008; Cillessen & Rose, 2005). As adolescents consider relationships with specific peers or peer groups, they are sensitive to status differentiations. Even within friendships or help, which tend to be reciprocal relationships, one partner often appears to have more status than the other (Updegraff et al., 2004). As peer opinion is of considerable importance in adolescent behavior, the following question arises: Does the perception of peers' behavior affect peer relationships?

These three overarching questions guide the Chapters of the dissertation. Thus, this dissertation focus on the role of interdependence, peer context, and perceptions of peers' behavior on shaping different types of peer relationships. To this purpose, I adopted a social network approach.

1.2 A social network perspective for examining peer relationships

The analysis of social networks focuses on how social life is structured, the mechanisms that drive the change and maintenance in the social connections, and how individuals' actions and cognitions are affected by those connections. Social network analysis defines a set of actors (e.g., students) and relationships (e.g., friendships, helping) that connect the individuals within a social structure (e.g., classroom, school). Social network models model the interdependence of individuals and their relationships. Characteristics of networks, individuals, pairs of individuals, and the structural position of individuals within networks affect the evolution of the network.

There are several benefits of using a social network perspective to investigate peer relationships. First, social network analyses provide information about the potential mechanisms that affect the formation or maintenance of relationships while controlling for multiple social mechanisms that influence the formation of such ties (e.g., reciprocity, transitivity). Second, it allows examining the influence effects, that is, the extent to which participants change their behavior in accordance with the peers they affiliate with (e.g., friends, academic partners). Third, it allows treating how actors perceived peers' behaviors (e.g., *who of your classmates starts fights?*) or characteristics (e.g., *who are the most popular and visible students in your class?*) as network variables instead of individual attributes. This reflects the idea that adolescents' perceptions of peers' behavior have a dyadic character, and therefore could be described as directed relationships. Finally, social network analyses also bring the possibility of examining the interplay of two or more relationships simultaneously.

In this dissertation, I apply longitudinal social network analyses in different school contexts to cover the three presented research topics. I advance the peer relationships literature by incorporating the effect of the perception of other peers' behavior and attributes on peer relationships as well as by including information about multiple types of relationships in all chapters. Moreover, as most research on peer relationships has been conducted in the US or Europe, this study extends this literature by using data from Chilean schools.

1.3 Chilean educational system

The school system in Chile is organized in three sequential stages: pre-primary education (children up to 6 years old), primary education (divided in 8 years with ages 6 to 13), and upper secondary education (divided in 4 years with ages 14 to 17). Since 2003, both primary and upper secondary education are mandatory for children up to 18 years old (12 years of compulsory schooling). In 2015, the greatest portion of students attended private-subsidized schools (53.4%), while 38.8% of students attended public schools and 7.7% private schools (OECD, 2017). The Chilean educational system reproduces a highly segregated society in terms of income and educational level. Whereas public schools tend to concentrate low-class students, the middle-low and middle class attend private-subsidized schools, and the upper-class students go to private schools (García-Huidobro, 2007; Valenzuela et al., 2014). Classrooms have an average of about 30 students, where students remain together with the same classmates for at least their whole primary education (grades 1 to 8), and commonly also through their upper secondary education (grades 9 to 12). Therefore, classrooms constitute highly stable social contexts. Despite these particularities, studies on adolescent peer relationships with Chilean samples have shown similar patterns similar to those found in the US and European youth for several interpersonal processes such as the peer influence effects in the development of aggression (e.g., Dijkstra et al., 2011), the interplay of friendships and antipathies (e.g., Berger & Dijkstra, 2013; Rambaran et al., 2015) or the protective effects of friends

for adolescents who experience victimization (Cuadros & Berger, 2016; Hodges et al., 1997; Hodges & Perry, 1999).

1.4 Overview of the Dissertation

Table 1.1 provides an overview of the research topics, data and samples used, as well as the analytical strategies and main variables of the different studies that are included in this dissertation. The studies in Chapters 2 to 5 were written for peer-reviewed journals and may be read as separate research articles. In Chapter 6, I discuss the main findings of all studies and their scientific and practical implications, as well as the directions for future research.

In the following sections, I present the background and aims of each study as well as the three datasets used. In the first two chapters of the dissertation, I investigate academic relationships. First, by examining whether the interplay of academic and friendship networks and its association with academic performance and school misconduct differ when comparing three types of classroom ability composition (i.e., high-, low-, and mixed-ability classes; Chapter 2). Second, by examining whether adolescents' selection of preferred academic partners is driven by peers' academic performance, prosocial behavior, and friendships (Chapter 3). In the second part, I focus on how the perception of peers' behavior (prosociality, aggression) and characteristics (victimization, popularity) affects friendship and antipathies networks. I examine whether being perceived as prosocial/aggressor/popular by an individual peer (dyadic perception) or by many classmates (reputational perception) is differently associated with being befriended (Chapter 4). I also examine whether adolescents befriend or dislike peers whom they consider an aggressor or a victim differ in classrooms that received an intervention to promote prosocial behavior compared to classrooms without this intervention (Chapter 5).

1.4.1 Classroom Ability Composition and Network Dynamics

Chapter 2 was set up to investigate the relationship between classroom ability grouping strategies and academic (*with whom do you study at school?*) and friendship networks. Ability grouping mechanisms assign students into different classes based on their abilities, educational career goals, or curriculum standards (Belfi et al., 2012). By assigning students to different classes, ability grouping defines the social group present in classes, not only by generating homogeneous educational environments but also by fostering and limiting the possible academic comparisons and social interactions among classmates (Marsh et al., 2008). In this chapter, I examine whether the interplay of academic and friendship networks and their association with academic performance and school misconduct differed when comparing three types of ability classroom composition (i.e., high-, low-, and mixed-ability classes). In this way, this study takes into account both the importance of the peer context and the interdependence of networks.

1.4.2 Adolescents' Preferred Studying Partners

In Chapter 3, I examine which characteristics drive to choosing preferred academic partners (*with whom would you like to study at school?*). There can be several motivations for selecting study partners. First, adolescents can focus on improving their academic success by selecting study partners whose help they think will be useful (Sullivan et al., 2002). Second, adolescents might prefer to study with more approachable and friendly classmates (i.e., prosocial peers and friends) because asking for academic help may pose a threat to one's self-image by being refused by peers and by showing one's weaknesses. Moreover, as high-achieving students might play an important role in academic

settings, I analyze whether they are more likely to prefer to study with similar high-achieving peers and friends. Thus, this study zooms in on multiplexity and takes into account dyadic perspective and reputation.

1.4.3 Dyadic versus Reputational Perceptions

Chapter 4 was set up to examine whether friendship selection differs when adolescents evaluate diverse sources of information, that is, the individual perception of peers' behavior (*dyadic perception*) and the reputation of those peers (*reputational perception*). As friendships play an important role in satisfying the fundamental goals of affection and status (Giordano, 2003; Johnson et al., 2011), adolescents might evaluate the behaviors and characteristics of others based on whether they will contribute to their goal fulfillment. Whereas peers' prosocial and aggressive behavior may give adolescents information about the potential quality of intimate relationships, peers' popularity may offer information on peers' social position, visibility, and social dominance. In this chapter, I analyze whether being perceived as prosocial, aggressor, and popular by an individual peer (dyadic perception) or by many classmates (reputational perception) is differently associated with being befriended. By doing so, this study incorporates and examines the importance of perceptions of peers' behaviors on peer relationships.

1.4.4 The Role of Context in the Perception of Peers' Behavior and Peer Relationships

In Chapter 5, I focus on how classrooms might differ in the way behaviors are evaluated and appreciated (Dijkstra & Gest, 2015), and, therefore, differ in the extent to which they promote and nurture positive relationships, such as friendships or, by contrast, foster negative relationships, such as antipathies. A way to promote more positive peer environments is by modifying the environment (e.g., social norms) and, in turn, the evaluation of certain behaviors and characteristics such as aggression and victimization. Specifically, in this chapter, I analyze the extent to which adolescents befriend or dislike peers whom they consider as aggressors or victims, and whether this selection differs between classrooms that received an intervention to promote prosocial behavior and classrooms without the intervention. This study takes into account both the peer context and the interdependence of networks by comparing intervention and control classrooms, and by examining the interplay of aggression and victimization with friendships and antipathies networks, respectively.

1.5 Datasets

1.5.1 Ability Grouping Project data

The data in Chapter 2 were part of a broader research project that aims to examine and understand the grouping processes carried out by effective-inclusive Chilean schools by describing their institutional arrangements and pedagogies (project FONDECYT 1150261; other publications related to this research project are Treviño et al., 2016, 2018). Participants were 1474 seventh, eighth, and ninth graders from 35 classrooms from nine schools in four regions in Chile. In those schools, the first grade of education offered was seventh, eighth, or ninth grade. The participating schools were selected according to their trajectories of school effectiveness and educational inclusion between 2010 and 2015. Regarding school effectiveness, schools were selected when 1) the progress of the majority of the students in the Chilean national standardized tests (SIMCE) in Mathematics and Language was better than expected given the socioeconomic conditions of the

families (Hopkins & Reynolds, 2001; Mitchell et al., 2002), and when 2) the schools did not apply selection processes for enrolling students and exhibited lower rates of repetition and dropout. Educational inclusion was conceived as schools' ability to close learning gaps, measuring by schools' decrease in their variance in both SIMCE standardized tests (Mathematics and Language) and Grade Point Average (GPA) throughout the secondary education cycle (from 9th to 12th grade in Chile).

1.5.2 ProCiviCo data

The data in Chapter 3 and 5 were part of a larger project aimed at developing, implementing, and evaluating a school-based intervention to promote prosocial behavior and civic engagement in Chilean schools (project FONDECYT 1160151; other publications related to this research project are Luengo Kanacri & Jiménez-Moya, 2017; Luengo Kanacri et al., 2019). This research project was adapted from the Italian project CEPIDEA (“Promoting Prosocial and Emotional Skills to Counteract Externalizing Problems in Adolescence”; (Caprara et al., 2015). The intervention was implemented between April and November 2017. In total, eight schools participated (16 classrooms), of which four were intervention (9 classrooms). From April 2017 onwards, students completed paper-and-pencil questionnaires twice per school year (April and November 2017 and 2018). The ProCiviCo intervention, through workshops and lessons for students and teachers, included the training in five components: (a) prosocial responding in the peer context, (b) empathic skills, (c) emotion regulation, (d) prejudice reduction, and (e) civic participation towards the school community. The workshops were led by the research team and in collaboration with teachers, consisted of weekly group discussions, role-playing, and interviews. The lessons were led by teachers and consisted of integrating civic issues in regular classwork across subjects.

1.5.3 Chilean peer relationships data

The data in Chapter 4 was part of a longitudinal study on peer relationships that followed fourth, fifth, and sixth graders in Santiago, Chile. The project focused on peer relationships and the developmental trajectories of aggression and prosociality in Chilean adolescents (project FONDECYT 1150201 other publications related to this research project are Berger et al., 2015, 2019). Data collection started in 2012 with four schools and 30 classrooms. Five waves were collected (April and October during the year 2012 and 2013, and April in the year 2014). Data includes students' socio-demographic characteristics, behaviors, and social networks assessed through paper-and-pencil questionnaires. Participating schools were private but received a public subsidy; this is representative of most Chilean schools. All schools were average in terms of family income, and they were located in low-to-middle socioeconomic status neighborhoods.

Table 1.1 Overview of the dissertation

Chapter	Research topic	Data source	Sample	Analytical strategy	Main variables
2	<ul style="list-style-type: none"> The effects of academic performance and school misconduct on academic and friendship networks in three types of classrooms ability composition The interplay of academic and friendship networks in three types of classrooms ability composition 	Ability Grouping Project wave 1 to 2	<ul style="list-style-type: none"> 528 students (12 classes) 7th to 9th grade; 14 years old 	Longitudinal social network analysis (RSiena) Multiple networks model	<ul style="list-style-type: none"> Academic: “With whom do you study at school?” (<i>unlimited network nominations</i>) Friendship: “With whom do you hang out at school?” (<i>unlimited network nominations</i>) Academic performance: General grade point average (<i>individual covariate</i>) School misconduct: number of school misconduct behaviors that they have been involved in at the end of the school year of the first assessment (<i>individual covariate</i>)
	<ul style="list-style-type: none"> The effects of academic performance, prosociality, and friendship on academic preference networks The interaction of academic performance and friendships on academic preference networks 	ProCiviCo wave 1 to 3	<ul style="list-style-type: none"> 537 students (13 classes) 7th grade; 12 years old 	Longitudinal social network analysis (RSiena)	<ul style="list-style-type: none"> Academic preference: “With whom would you like to study at school?” (<i>up to three network nominations</i>) Friendship: “With whom do you hang out at school during recess?” (<i>dyadic covariate</i>) Academic performance: General grade point average (<i>individual covariate</i>) Prosocial behavior: “Who helps those students in need” (from 1 = almost never to 5 = almost always) (<i>individual covariate</i>) Friendship: “Who are your best friends?” (<i>unlimited network nominations</i>) Prosociality: “Who cooperates? They help and share with others” (<i>dyadic covariate</i>) Aggression: “Who starts fights? They hit, kick, or punch others” (<i>dyadic covariate</i>) Popularity: “Who are the most popular and visible students in your class?” (<i>dyadic covariate</i>)
4	The effects of the dyadic and reputational perceptions on prosociality, aggression, and popularity on friendships	Chilean Peer relationships wave 1 to 2	<ul style="list-style-type: none"> 694 students (16 classes) 4th to 6th grade; 11 years old 	Longitudinal social network analysis (RSiena)	<ul style="list-style-type: none"> Friendship: “Who are your best friends?” (<i>unlimited network nominations</i>) Prosociality: “Who cooperates? They help and share with others” (<i>dyadic covariate</i>) Aggression: “Who starts fights? They hit, kick, or punch others” (<i>dyadic covariate</i>) Popularity: “Who are the most popular and visible students in your class?” (<i>dyadic covariate</i>)

Table 1.1 Overview of the dissertation (Continued)

Chapter	Research topic	Data source	Sample	Analytical strategy	Main variables
5	<ul style="list-style-type: none"> • Whether adolescents befriend or dislike peers whom they consider as aggressors or victims • Whether the selection of friends and antipathies differs in intervention and control classrooms 	ProCiviCo wave 1 to 3	<ul style="list-style-type: none"> • 530 students (13 classes) • 7th grade; 12 years old 	<p>Longitudinal social network analysis (RSiena)</p> <p>Multiple networks model</p>	<ul style="list-style-type: none"> • Friendship: “With whom do you hang out at school?” (<i>up to three network nominations</i>) • Antipathy: “With whom would you not like to hang out at school?” (<i>up to three network nominations</i>) • Aggression: “They behave aggressively or make fun of others” (<i>up to three network nominations</i>) • Victimization: “They are victimized, or kids make fun of them” (<i>up to three network nominations</i>)

