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

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# Conclusion and Discussion

### 6.1 Summary and discussion of the findings

During adolescence, peer relationships not only reach their peak in terms of frequency and prominence (Giordano, 2003; Johnson et al., 2011) but also grow in complexity by including both positive (e.g., friendships, academics) and negative relationships (e.g., antipathies, bullying). Moreover, the social context starts to influence peer relationships by affecting which behaviors are sanctioned or reinforced and, consequently, which behaviors are associated with high and low status (Dijkstra & Gest, 2015).

In this dissertation, I studied the interplay of different types of peer relationships in schools. In Chapters 2 and 3, I addressed the extent to which academic relationships are affected by friendships and adolescents' characteristics, such as academic performance, school misconduct, and prosocial behavior. Furthermore, in Chapters 4 and 5, I examined the extent to which adolescents' perceptions of peers' behavior (aggression, prosociality) and characteristics (victimization, popularity) affect peer relationships, such as friendship and antipathy networks.

In this concluding chapter, I will first summarize the main findings of the four empirical studies. Second, I will discuss these findings focusing on the role of 1) the interdependence of networks, 2) the peer context, and 3) the perceptions of peers' behaviors. Finally, I will discuss the limitations and potential directions for future research.

### 6.2 Main Findings

In Chapter 2, I focused on the link between classroom ability grouping strategies and academic (*who do you study with?*) and friendship relationships. Specifically, I examined whether the interplay of friendships and academic relationships and their association with academic performance and school misconduct differs when comparing three types of classroom ability composition (i.e., high-, low-, and mixed-ability classes). The results showed that academic relationships in high-ability classrooms were driven by a preference to form and maintain relationships with high-achieving students as well as to avoid academic relationships with students engaged in school misconduct. Conversely, academic relationships in low-ability classrooms were driven by neither academic performance nor school misconduct. Finally, the findings indicated not only that friends study together but also that studying partners become friends across all types of classrooms.

In Chapter 3, I examined which characteristics are associated with preferred academic partners (*with whom would you like to study at school?*). Specifically, I analyzed the extent to which adolescents' selection of preferred academic partners is driven by peers' individual (academic performance and prosocial behavior) and dyadic characteristics (friendships). The results indicated that adolescents were more likely to select high-achievers, friends, and prosocial peers as preferred academic partners. Moreover, high-achievers were more likely to choose other high-achievers as well as friends as preferred academic partners.

In Chapter 4, I examined whether friendship selection differs when considering adolescents' perceptions of their peers' behavior (*dyadic perception*) or the reputation of those peers (*reputational perception*). Specifically, I analyzed the effects of the dyadic and reputational perceptions of prosociality, aggression, and popularity on friendship selection. The findings indicated that adolescents preferred to befriend peers that were widely perceived as prosocial (*reputational perception*). Conversely, adolescents were less likely to befriend classmates whom they perceived as aggressive on the dyadic level. Finally, adolescents preferred to befriend peers that were perceived as popular by peers.

In Chapter 5, I analyzed the extent to which adolescents befriend or dislike peers whom they consider aggressors or victims, comparing classrooms that received an intervention to promote prosocial behavior with classes without the intervention. The findings showed that classmates perceived as aggressive or victims were less likely to be disliked in classrooms that were part of the intervention group.

## 6.3 Discussion

### 6.3.1 The interdependence of peer relationships

In this dissertation, I adopted a multiple network perspective. The concept of multiplexity describes situations in which two or more types of relationships (e.g., friendship and help) co-occur between individuals. The findings of previous multiplex studies show that one type of relationship is not only a consequence of individuals' behaviors and characteristics but may also emerge as the result of the association with other types of relationships (e.g., Huitsing et al., 2014; Rambaran et al., 2020; van der Ploeg et al., 2020).

In Chapters 2 and 3, I focused on the interplay of two positive relationships: academic relationships and friendships. In Chapter 2, the results showed a strong association between academic and friendship networks, indicating that adolescents tend to study with friends but also that friends tend to study together. Similarly, in Chapter 3, adolescents chose friends as preferred academic partners. These findings suggest that academic relationships foster friendships and vice versa, resembling previous findings on the interplay of friendship and helping relationships (Van Rijsewijk et al., 2016, 2019). The formation and maintenance of academic relationships might be linked to experience affective and safe environments. Indeed, the results of this dissertation showed that adolescents chose not only friends but also prosocial peers as preferred academic partners. High-achieving students, who already enjoyed academic success, also were more likely to nominate friends as preferred academic partners. Friendships were frequently linked to the provision of other positive relationships (e.g., academic, helping) and the access to the resources associated with them. For instance, friendship stability can affect academic performance (Lessard & Juvonen, 2018) by altering the access to resources for emotional support, advice, and assistance with academic tasks (Wentzel, 1993).

However, to advance the understanding of the conditions in which academic and friendship relationships unfold, it is necessary to conduct analyses that distinguish 1) the creation and maintenance of academic and friendship ties and 2) unilateral and mutual relationships (e.g., non-reciprocal and reciprocal friendships). In this line, a recent study by Van Rijsewijk et al. (2019), which analyzed the interplay of friendship and help networks (*who helps you with problems such as homework, repairing a flat [bicycle] tire, or when you are feeling down?*), found that mutual help was important for the maintenance of friendship, but not for the initiation of friendship. Moreover, mutual friendships provided a context in which help took place. This could mean, in the case of academic and friendship networks, that studying together with others is related to the maintenance and not the formation of friendships. Reciprocal, probably high-quality friendships, offer perfect conditions for studying together and are important to maintain.

Overall, the findings of this dissertation indicate the importance of adopting a multiplex perspective. Peer relationships, such as academic or friendship relationships, cannot and should not be examined in isolation. Therefore, to understand the dynamics of a specific relationship, it is important to examine its interplay with other types of relationships.

### 6.3.2 The peer context

Adolescents' peer relationships with friends or academic partners are also embedded within the broader peer context of the classroom. In Chapter 2, I focused on the link between classroom ability grouping strategies and academic relationships and friendships. It was expected that classroom ability composition would impact the interactions among adolescents by modifying their opportunities to interact with students with different academic performance. Specifically, I examined whether the interplay of academic relationships and friendships 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). The results suggested important differences in the formation and maintenance of academic networks comparing high- and low-ability classrooms. Particularly, in high-achieving classrooms, academic performance appeared to be central in shaping positive relationships such as friendships and study partners, whereas this was not the case in low-achieving classrooms. As a consequence, academic relationships seemed to be structured more around academic success, making students in high-ability classrooms more prone to achieve academic success because they are able to access support through their friendship networks. Moreover, these findings were consistent with high achievers being attractive as advisers or helpers (Snijders et al., 2013), and with students engaged in deviant behavior (e.g., school misconduct, truancy) being avoided in academic relationships by their classmates (Rambaran et al., 2017).

Moreover, results presented in Chapter 5, results showed that, compared with control classrooms, adolescents in intervention classrooms who were considered aggressive or seen as victims by their peers, were less disliked by the same classmates. The findings suggested that the promotion of prosocial behaviors can protect against peer rejection, especially for victims and aggressive peers (Storch et al., 2003). Nevertheless, victims and aggressive peers were as unlikely to be befriended in the prosocial intervention classrooms as in the control classrooms. This points at an interesting asymmetry, where victims and aggressors were less negatively rejected and not more positively accepted. An explanation for this might be that friendships, compared with antipathies, are more stable and permanent over time. Therefore, it might be that prosocial interventions are more successful in ceasing antipathies than modifying friendships. As prosocial environments could protect, particularly aggressive and victimized students of being disliked, these findings stress the importance of developing prosocial skills in schools.

Together, these results suggest that the social context can shape the development of peer relationships, such as academic, friendship, and antipathy networks. First, academic performance and school misconduct were differently evaluated and associated with academic relationships in high- and low-ability classrooms. Second, adolescents perceived by their peers as aggressive or victims were significantly less rejected in classrooms that received an intervention on prosocial behavior and civic engagement. Together, both studies indicate that the social context plays an important role in the development of peer relationships through characteristics such as classroom ability composition and interventions on prosocial behavior.

The implications for researchers and educational policymakers are that prosocial interventions might protect students by fostering social settings in which adolescents perceived as aggressive or victims are less likely to be rejected. Victims tend to benefit from prosocial school environments by exhibiting significantly less anxiety, loneliness, and unsafety (Schacter & Juvonen, 2018). Similarly, recent findings suggest that schools that promote inclusiveness and equity can foster positive relationships among students (Rivas-Drake et al., 2019) as well as that schools with

a positive climate can reduce the prevalence of bullying and victimization (Fink et al., 2018; Van Ryzin & Roseth, 2018).

### 6.3.3 The perception of peers' behavior

In Chapters 4 and 5, adolescents were asked about their perceptions of peers' behaviors and characteristics, such as prosociality, aggression, victimization, and popularity. The idea behind the two chapters was that adolescents evaluate the behaviors and characteristics of their peers based on whether peers contribute to the fulfillment of affection or status (Chapter 4) and on the prosocial environment of their classroom (Chapter 5).

The study in Chapter 4 incorporated the distinction between dyadic (adolescents' individual perception of a peer's behavior) and reputational perception (the consensual reputation of a peer). The results of this chapter showed the importance of distinguishing between dyadic and reputational perception when examining prosociality, aggression, and popularity. As expected, adolescents avoided befriending peers whom they perceived as aggressive and befriended peers who were widely perceived as popular. Conversely, adolescents befriended peers widely perceived by others as prosocial instead of befriending peers whom they themselves perceived as prosocial. These results suggest that adolescents may consider that peers perceived as prosocial by reputation are associated with being kind and empathic to others, turning them into more trustworthy as friends.

Chapter 5 focused on the importance of the dyadic perception of peers' aggression and victimization for selecting friends, comparing intervention with control classrooms. The findings revealed that intervention classrooms fostered environments in which adolescents perceived as aggressive or seen as victims by peers were less disliked by those same peers. The results suggest that the perception of others' behaviors and characteristics, as well as the relationships established with them are affected by the classroom context.

Earlier studies on examining characteristics that contribute to peer relationships such as friendships or antipathies often aggregated peer nominations (e.g., who is popular, who cooperates with others) at the group level by counting the number of individual nominations received by each student in the classroom (or grade), and then either standardized these scores ( $z$ -scores) or divided them by the total number of possible nominations (proportion scores). These scores tend to reflect the agreement among peers about behaviors or characteristics of adolescents, such as friendships, popularity, or victimization. However, individual students may not have nominated the same adolescent as aggressive and as a friend, even in cases where researchers find a positive correlation between aggressive behavior and friendship nominations (Kiefer & Ryan, 2011; LaFontana & Cillessen, 2002). This dissertation shows that the study of peer relationships should be careful in interpreting the effects of aggregated measures because they do not have the same meaning as dyadic measures. Whereas, in some scenarios, the reputational perception is more important; in others, the dyadic perception seems to play a more crucial role. Consequently, the best option is to examine both simultaneously, but if that is not possible, the interpretation should be cautious, noticing that reputational measures do not necessarily follow the same pattern as dyadic measures.

Incorporating the adolescents' perception of the behaviors and characteristics of their peers as predictors of peer relationships offers an exciting avenue for future research. First, it provides a closer look at how adolescents see the behaviors and characteristics of their peers, and consequently, how these evaluations are associated with actual relationships with them. Second, it offers a way to examine the extent to which adolescents establish relationships with classmates

based on a match between their own goals (e.g., affection, status) and their evaluations on peers' behaviors and characteristics. For instance, adolescents who score high in status goals might befriend or help peers that they perceive as popular or admired. Third, it allows connecting the individual and group-level characteristics by linking, for example, how the evaluation of peers' behavior and characteristics, and its association with peer relationships (e.g., friendship, antipathies) are linked to characteristics such as classroom climate or norms. Finally, it provides a way to study whether adolescents align and conform to their evaluations and peer relationships with that of their peers or friends (Fiske et al., 2002).

#### **6.4 Limitations and directions for future research**

This dissertation provides new insights into adolescents' peer relationships by focusing on the interplay of different types of peer relationships, the role of the peer context, and the perception of peers' behavior. However, the findings should be interpreted, bearing in mind some limitations, which, in turn, suggest different avenues for future studies. I focused on four topics: the inclusion of information on adolescents' relationships outside schools, the quality of peer relationships, the role of students' goals for establishing peer relationships, and missing network data.

##### **6.4.1 Outside school relationships**

As the focus of this dissertation was on peer relationships in classroom contexts, I did not measure relationships between adolescents' social networks outside the school context (Kiesner et al., 2003). Classrooms are close contexts in which students not only spend a lot of time, but they also facilitate the study and collection of peer-relationships data. However, it is important to acknowledge that this is not the whole picture. Helping relationships such as academic relationships can also happen outside schools. For example, adolescents might search for help in extracurricular activities such as arts, sports, being part of an orchestra or band (Pierce et al., 2010). Future studies can incorporate this consideration to gain better and fine-grained knowledge about peer relationships such as academics and friendships.

##### **6.4.2 Quality of relationships**

A common assumption of social network analysis is that all peer relationships are equally important. However, adolescents might have closer relationships and more interactions with some peers than with others (Granovetter, 1973). For instance, close friendships are more likely to involve the exchange of intimacy, companionship, and time spent together (Berndt, 2002), whereas weaker friendships do not provide most of these characteristics. Moreover, the quality of peer relationships, such as friendships, might be directly related to the interplay with other relationships such as studying together. For example, academic relationships may be more likely to occur in high-quality friendships. Students can be asked about their relationships with friends and academic partners, focusing on the contact duration, frequency, and diversity of contact. Alternatively, recent developments such as wearable devices (e.g., Bluetooth beacons) make it more feasible to measure the characteristics of social contact by assessing physical proximity between students (Goh et al., 2019).

##### **6.4.3 The role of students' goals**

In this dissertation, I analyzed the extent to which adolescents establish their relationships based on peers' individual (e.g., academic performance, prosocial behavior) and dyadic characteristics



(e.g., friendships, aggression). I assumed that there were several goals behind establishing peer relationships, such as friendships and academic relationships. For instance, adolescents can focus on improving their academic success by selecting high-achieving classmates as study partners or focus on studying with more approachable and friendly classmates by choosing prosocial peers and friends, respectively. However, adolescents' goals were not directly measured in the different chapters of this dissertation. Examples of goals that can be included in future research are achievement goals such as mastery (focus on developing academic competence) and performance goals (focus on social comparison and competition), status (focus on power and dominance), and affection (focus on love and intimacy) (Shin & Ryan, 2014b; Sijtsema et al., 2019). Incorporating such information could help to elucidate questions such as: Do students befriend high achieving prosocial peers because they are more likely to help them with their homework or because they are genuinely more pleasant to be around? (Chapter 3), or Do students strategically try to befriend people who are perceived by others as popular to gain status and respect from the group? (Chapter 4).

#### **6.4.4 Missing Network Data**

In this dissertation, network missing data due to nonresponse were handled using the RSiena missing data procedure (Huisman & Steglich, 2008) for classes with 20% or less of network missing data. Classes with higher levels of missing data (above 20%) were excluded from the analyses. This exclusion considerably reduced the sample size in Chapters 2 and 4. However, recent developments in multiple imputation methods for social network analysis offer a way to overcome this issue (Krause et al., 2018, 2020). The use of these methods, in cases with moderate missing data (20% or more), will lead to not only more reliable estimates than using the standard estimation procedures (e.g., methods of moments), but also to preserve and analyze larger samples of networks (e.g., classrooms, schools).

#### **6.4.5 The role of the social and cultural context: Chilean schools**

Studying different socio-cultural contexts allows evaluating the normative character of peer processes in diverse populations helping to identify common patterns in peer relationships and groups. In this dissertation, I focused my attention on Chilean schools, which present some particularities. In the Chilean educational system, students tend to remain together with the same classmates for at least their whole primary education (grades 1 to 8), and commonly also through their secondary education (grades 9 to 12). As a result, classrooms constitute highly stable contexts. Also, the ethnic composition of the Chilean society is quite homogeneous, with 91% of the population self-identifying as white (or mixed-race with European ascendancy), and only 9% of the national population identifying themselves as belonging to an indigenous ethnic minority, with even a lower proportion (7%) in Santiago (Ministerio de Desarrollo Social de Chile, 2017). Despite these differences with US and European countries, the development of research on adolescents' peer relations in Latin America shows comparable trends to those in western societies (Berger et al., 2016). More specifically, research on adolescent peer relations with Chilean samples using longitudinal social network analysis has shown consistent results in the USA, Europe, and Latin America (e.g., Berger et al., 2019; Berger & Dijkstra, 2013; Dijkstra et al., 2011; Dijkstra & Berger, 2018). Overall, the findings of this dissertation can be generalized with caution to other populations.

### **6.5 Concluding remarks**

This dissertation zoomed in and provided insights on understudied areas in the peer relationships literature investigating the role of multiplexity (e.g., the interdependence between academic relationships and friendships, dislike, and victimization), peer context (e.g., classroom ability composition, intervention in classroom norms), and status (e.g., the distinction between dyadic and reputational perceptions) in different peer relationships such as academic relationships, friendships, aggression, victimization, and antipathies. This dissertation showed that classroom composition is differently associated with academic relationships (Chapter 2). Moreover, high-achieving students, prosocial peers, and friends were likely to be chosen as preferred academic partners (Chapter 3). Furthermore, adolescents avoided befriending peers whom they perceived as aggressive and befriended peers who had a reputation for being popular and prosocial (Chapter 4). Finally, within classrooms that received an intervention fostering prosocial behavior, adolescents perceived as victims or aggressors were less likely to be rejected (Chapter 5). Together, the results indicated the importance of 1) a multiplex perspective for examining peer relationships, as looking at one single network in isolation is artificially separating it from its embedded context; 2) the social context such as ability grouping practices and prosocial behavior interventions, as both can shape peer relations by setting norms of what is considered ‘good behavior’; 3) the perception of peers’ behavior as both dyadic and reputational perception have effects on peer relationships. To acquire these insights, longitudinal social network analyses were implemented. In addition to addressing some gaps in the literature, the findings from this dissertation provided directions for further research. In this way, this dissertation might inspire researchers to explore further the interplay of peer relationships as well as their role in shaping students’ academic behavior. This can provide educational practitioners and policymakers with knowledge to enhance adolescents’ bonding, learning, and success in school.



