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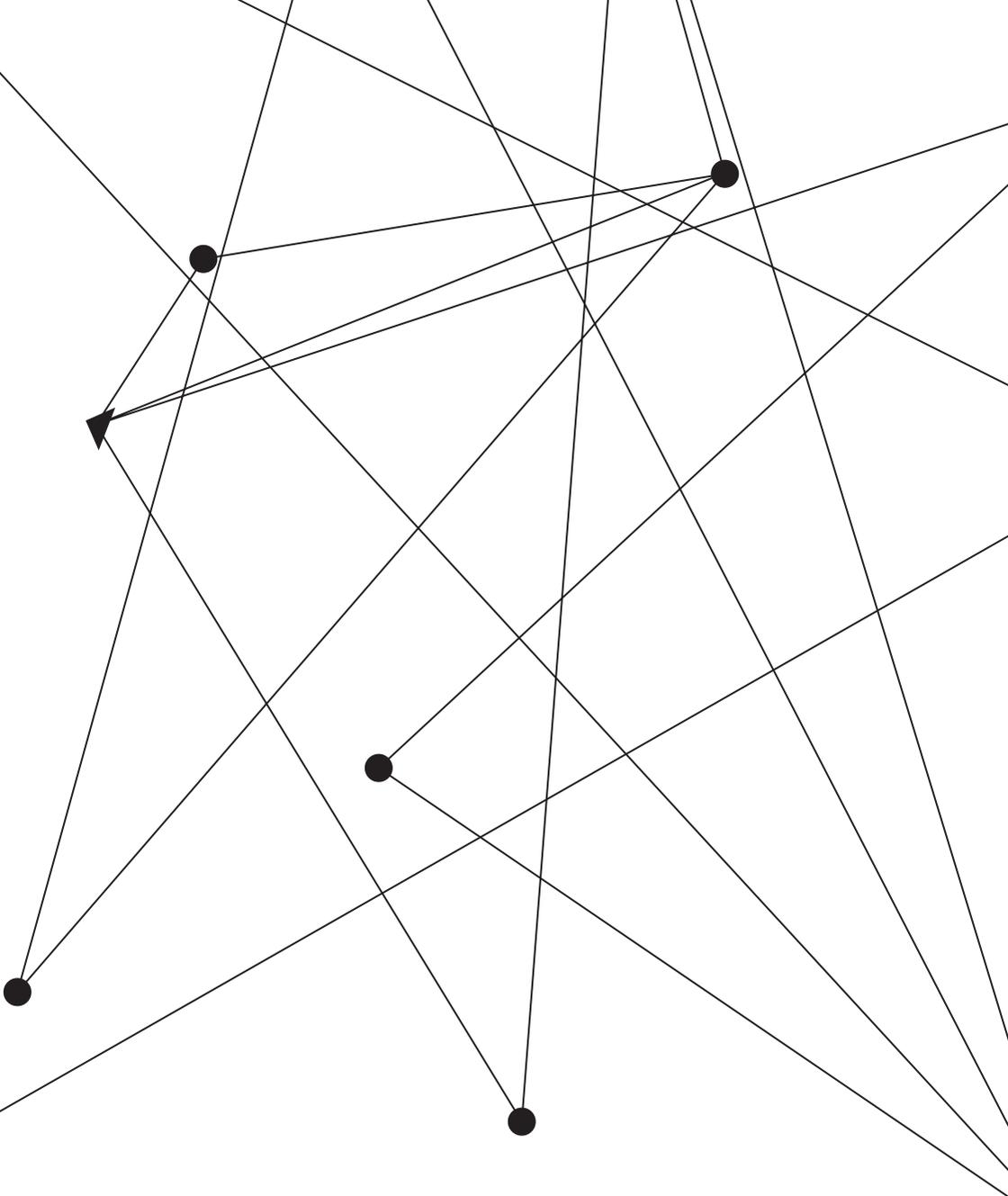


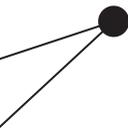
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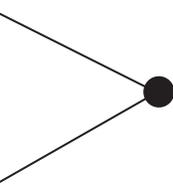
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CHAPTER 5

General Discussion



In this thesis, we studied peer relations in early adolescence. Peer contact is essential for adolescents, serving as a source of support, a context for learning and social and emotional development (De Abreu & Elbers, 2005; Masten, Juuvonen, & Spatzier, 2009). A known phenomenon in peer relations is homophily, i.e., the fact that most friends, casual contacts, or peers in a peer group are alike on a broad variety of characteristics or attributes. However, it is often unclear whether this homophily is the result of selection, where students select peers that are like themselves, or whether this is the result of socialization, where the individual student is influenced by his or her peers to become more alike over time. The focus in this thesis was on factors that have an important impact on students' educational attainment and well-being. The aim of this thesis was to explore which characteristics function as selection factors for peer relations and which characteristics are influenced by the peer group. We conducted three different studies, all dealing with young adolescents' social networks.

Our aim to analyze socialization and selection effects is strongly tied to our use of SIENA in chapters three and four: Using SIENA, selection and socialization effects can be disentangled and concurrently estimated; it can be analyzed whether a behavioral variable functions as a selection criterion for friendship and whether behavior changes as a result of the behavior of friends. Furthermore SIENA allows for the correct analysis of dependent data and takes structural effects within social groups into account. Such structural effects include the tendency for reciprocity (nominating somebody who nominates you as friend) and the tendency to become friends with friends of friends. In short, SIENA allows for the correct statistical analysis of social networks, whilst controlling for structural network effects and disentangling socialization and selection effects (Snijders, Steglich, Schweinberger, & Huisman, 2010).

In chapter two we studied two different types of peer relations of sixth graders (last year of primary school): social interaction networks and friendship networks. In this study, we focused on the role of ethnic background in

peer selection, while controlling for network effects such as reciprocity and transitivity, and for sociometric status. Based on the existing literature, we expected to find a stronger ethnic homophily preference for casual contacts than for friendship relations. However, we found that students exhibited a similar preference for ethnic homophily in both forms of peer relations. This suggests that ethnicity is as important in choosing friends as it is in choosing interaction partners. Not only does this reaffirm the similarity-attraction hypothesis, it also suggests that when it comes to ethnicity, similarity-attraction applies as much to casual contacts as it does to friendships. For teachers, this poses an important challenge because even at a casual level intercultural contact may not happen 'automatically'. Although the contact hypothesis, stating that intergroup contact leads to less prejudice and positive intergroup relations, is one of the best supported theories in social psychology (Beelman & Heinemann, 2014), simply placing children of different ethnic backgrounds in a room together does not lead to an increased inter-ethnic contact preference. Perhaps, even for casual contacts the similarity between students as regards characteristics that we did not focus on, i.e., the so-called hidden homophily (McPherson, Smith-Lovin, & Cook, 2001), influences preferences of children. However, because we did not test this explanation, we cannot validly contend what caused this preference. In our study we suggested that particularly casual contacts are important in schools, because it is these contacts, in contrast to more intimate friendship contacts, that schools or teachers are likely to be able to promote through pedagogical measures. However, we showed that even for casual contacts, students prefer to interact with others of a similar background. As stated before, one conclusion is that administrations of schools that value diversity in peer contact have to work harder to stimulate interethnic relations through active didactic approaches, such as ethnically heterogeneous cooperative learning groups. In light of these findings, we suggest that specific interventions, such as the jigsaw classroom (Aronson & Patnoe, 1997; Roseth, Johnson & Johnson, 2008), may be needed to establish intercultural contacts in the classroom. A recent meta-analysis by Beelman and Heinemann (2014) of studies on the effects of programs in preventing and reducing prejudice, and improving intergroup

attitudes, suggests that such programs implementing the contact hypothesis model are even more successful if they combine direct contact with training in empathy and perspective taking. However, simply suggesting that schools should all start using cooperative learning groups and make sure to implement programs for training students' empathy and perspective taking, is probably too simple. As commented in the second chapter, we found substantial differences between schools in terms of the strength of the ethnic homophily effect. Schools differ in the extent to which students are actually interacting with peers who differ in ethnic background. It could well be that this reflects that schools or school staff differ in attitudes and policies with respect to intercultural relationships and intercultural education. Perhaps schools should first be invited to develop and implement policies that are friendly to intercultural issues.

In chapter three, we broadened our attention to both selection and socialization processes in grade eight (second year of secondary education) friendship networks. We focused on the role of academic achievement, while controlling for the ethnicity similarity effect that we found was so important in our earlier study. Because report card grades are decisive for grade repetition and have a long term effect on students' educational attainment and social participation (Goza & Ryabov, 2009), we wanted to know whether students selected and socialized each other with regard to report card grades. Students may be supportive of formal learning in schools or may distract each other from this learning (Dodge, Dishion, & Lansford, 2006). Our expectation was that peers would socialize each other as regards academic performance. Indeed, we found that students socialize their peers' Dutch and English language achievements, and thus become more alike with regard to these achievements, but not their math achievement. This indicates that friends are important for language achievements. We found no selection effects for academic achievements, indicating that academic achievement does not function as a selection criterion for adolescents. In line with Dodge and colleagues (2006), our study suggests that friendship choices may indeed affect grades. This could be for better or worse; adolescents may entice one

another to do other things than study, but they may also help one another achieve better grades. Because grades declined over the course of our study the first process may be more prevalent than the second. The challenge for teachers and schools is to turn this socialization into a positive influence. As stated in chapter three, it is unrealistic to expect teachers, or perhaps even parents, to dictate which students become friends with one another. However, teachers *can* influence which students interact with one another through placement in the classrooms, assigned seating, cooperative work groups or dyads. It would be interesting to expand studies on peer socialization to find out whether teachers can implement certain social structures in the classroom as an aid to support students' mutual learning aimed at raising students' achievements. Of course, this is exactly what many cooperative working methods based on social-constructivism theory and the work of Vygotsky aim to achieve (Webb et al., 2008; Zakaria, Chin, & Daud, 2010). The fact that language achievement is influenced by peers, whereas math achievement is not, poses yet another interesting question. Explanations that we offer are that math has a high status in the Dutch curriculum (Maassen & Landsheer, 2000), that math scores are relatively strongly related to intelligence (and that math is a domain where intelligence is considered to be more important than in other curricular domains, Douglas, Burton, & Reese-Durham, 2008), and that math anxiety plays an important role in math achievement (Ashcraft, 2002). Hence, personal characteristics may be more important in math than they are for students' language competence and achievements, for which social contexts seem to be more important.

In our fourth chapter, we broadened both the type of peer effects that we focused on and the criteria that we studied. We studied four possible peer processes: selection, socialization, avoidance and withdrawal. While avoidance and withdrawal are not noted as likely effects that shape the peer group that students interact with, as regards academic achievement, these effects have been suggested as explanations for the selection and de-selection of *depressed* peers (Schaefer, Kronieko, & Fox, 2011). Avoidance refers to the process that students with certain attributes are less often

nominated as friends; they are avoided by their peers. Withdrawal refers to the process that students with particular attributes themselves nominate fewer peers, withdrawing themselves from social interactions. While these effects do not necessarily lead to increased similarity in problem behavior, they might influence the peer selection process, and through this selection process, influence the 'availability' of students for interaction. We studied these processes with regard to internalizing and externalizing problem behavior concurrently, to avoid misattribution, and focused specifically on lighter forms of externalizing problem behaviors. For externalizing problem behavior, as expected, we found evidence of both selection and socialization effects, and no evidence of avoidance or withdrawal effects. The selection and socialization effects are in line with earlier research (Burk, Kerr, & Stattin, 2008; Svensson, Burk, Stattin, & Kerr, 2012). Although other studies (e.g., Vitaro, Pedersen, & Brendgen, 2007) have stated that adolescents with externalizing problem behavior are often rejected by peers, we found no such avoidance effect. These earlier studies, however, described this effect for students with (severe) delinquent behavior. Perhaps we should be careful to compare our study to those studies, since we focused on relatively 'light' externalizing problem behavior. Previously it has been suggested that adolescents may avoid those peers who engage in severe forms of externalizing problem behaviors, such as delinquency (Baerveldt, Völker, & Van Rossem, 2008), but may actually value lighter forms of externalizing problems as they may signal evolutionary fitness, deviance of adult norms and the capacity to gain control of resources (Ellis et al., 2012; Govender, 2011; Salmivalli, 2010). For instance, adolescents who exhibit bullying behavior, are also in control of resources (Reijntjes et al., 2013). Our results fit this line of thought well, and suggest that practitioners should be mindful of the potential rewards elicited by (lighter) externalizing behaviors amongst adolescents.

Also in line with our hypotheses, we found no selection effect for internalizing problem behavior. However, contrary to our expectations, we neither found avoidance nor withdrawal effects. The lack of avoidance and withdrawal effects indicates that the proposed de-selection and rejection processes do

not explain the peer interactions for adolescents with internalizing problem behavior. Rather, the only effect found with regard to internalizing problem behavior was a trend towards socialization. This trend might indicate co-rumination between friends (Rose, Carlson, & Waller, 2007), but more research is needed to explicitly test whether and under which circumstances internalizing problem behavior is socialized by peers.

Limitations and Directions for Further Research

In our first study, we tested whether the selection of friends and casual contacts was influenced by the ethnic background of the children. However, because our sample was very diverse, we ended up testing whether immigrant children had a preference for immigrant children, and native children a preference for native children. Of course, ‘lumping’ children with up to 11 different ethnic backgrounds together in one immigrant group, is rather blunt and a limitation to our study and its results. It would be interesting to see whether our results hold in classes where there are two or three specific ethnic groups, large enough to draw conclusions. In our second and third study, we asked students to indicate which classmates they liked. It is entirely possible that these students had out-of-class or out-of school friends who also socialized these students. However, due to our research design, we could not estimate the influence of these peers. The consequence of our choice of a design focusing on in school or in class social networks is that certain results may depend for their explanation on the design characteristics or limitations. For instance, in our study on internalizing and externalizing problem behavior, we found only a trend for socialization of internalizing problem behavior. Previous research has reported both support for socialization (Haselager, Hartup, Van Lieshout, & Riksen-Walraven, 1998; Henrich, Kuperminc, Sack, Blatt, & Leadbeater, 2000; Mariano & Harton, 2005) and no evidence of such support (Pachucki, Ozer, Barrat, & Cattuto, 2015) or only for female best friend dyads (Giletta et al., 2011; Giletta et al., 2012). The measure of friends that we used, was rather general, with adolescents naming up to seven peers that they liked. It could be that the socialization of internalizing problem behavior is stronger in best friend dyads or in friendship groups where intimate thought

sharing is more frequent. Such friendships allow for co-rumination that could lead to an increase in internalizing problem behavior (Rose et al, 2007). In social cognitive theory (Bandura, 1986), socialization is hypothesized to occur through communication. Peers give information about what is expected or what is valued, either directly to a specified peer or through gossip (also called *normative regulation*, see Eder, Evans & Parker, 1995). If socialization occurs through thought sharing, we would expect socialization to occur more frequently in groups where discussion and thought sharing are abundant. Here, a gender effect might be in play, as female friendships are more defined by thought and emotional sharing (Aukett, Ritchie, & Mill, 1988) However, Rancourt, Conway, Burk, & Prinstein (2013) found an opposite effect in all-male friendship groups. They found socialization effects with respect to dieting behavior. Such effects were not found in all-female friendship groups.

As stated in the introduction, some researchers operationalize ‘friendship’ as reciprocated ties between peers. Earlier we have been explicit in stating that in our analyses we used unilateral peer nominations based on liking. It is easy to understand that a focus on reciprocated ties would have resulted in fewer cases in our analyses, likely to result in statistical problems when using such complex designs as we did. This being said, it is important to realize that there are substantive issues, like co-rumination and disclosure, in peer socialization and selection that perhaps are likely better ‘captured’ when studying reciprocated peer relations. However, reciprocated ties are not necessarily a reflection of intimacy. A recent study by Kuhnt and Brust (2014) showed that networks of adult students based on a specific question namely “with whom would you talk about personal problems”, did not increase in reciprocity over time whereas networks based on more basic questions (“with whom do you spend time” or “of whom do you know whether they are in a stable relationship or not”) lead to an increase in reciprocity. To complicate matters, there is also some evidence that selection and reciprocity interact. For instance, Hafen and colleagues (Hafen, Laursen, Burk, Kerr, & Statin, 2011) report that 7th and 10th grade students who were not friends, but were more similar to each other with regard to (among others) self-esteem

and delinquency, more often evolved into a stable, reciprocated friendship, than students who differed more on these variables. As difference scores increased, the likelihood that a friendship was stable decreased. The usage of non-reciprocated ties for the study of internalizing problem behavior thus has both advantages and disadvantages. With regard to form of peer contact, there is evidence that there are many different peer contexts, such as classmates, friends, intimate or best friends, in or out of school, that, depending on the characteristic being studied, exert comparable or quite distinct socialization (Kiesner, Poulin, & Nicotra, 2003; McGloin, Sullivan, & Thomas, 2014; Urberg, Degirmencioglu, & Pilgrim, 1997; Zimmer-Gembeck & Kindermann, 2010). We chose to study in-class friends and determined friendship networks based on the nomination of classmates that students liked. Although Kindermann and Gest, for instance, state that “friendship groups are defined by feelings of liking between individuals” (p. 103, 2009), an important limitation of this choice is that we do not know for certain whether these networks differed in any way from networks based on specific questions such as “name three friends”. Nevertheless, we do compare the results of our studies with results from studies using networks based on specific (limited) friend nominations. The similarity in outcomes makes us feel confident about the validity of these comparisons. However, with regard to certain specific factors, such as internalizing and externalizing problem behavior, it would be interesting to contrast specific peer contexts, such as those between unilateral friendships and reciprocated friendships or between casual and intimate friendships.

We chose to work with network analysis in this thesis to model selection, socialization, avoidance and withdrawal in well-defined groups. Indeed, we chose a research design that allowed us to draw conclusions about these effects with regard to several factors. However, we did not directly study answers to the question *how* socialization is realized. Without research into this key question, there is a real danger that network studies simply offer more information about which specific criterion is or is not a factor in friendship selection or socialization, without any information that pertains to the practical application of this data: how can we stimulate positive development

within peer networks, and how can we offer insulation or promote resistance to negative peer effects? Specifically applied to our studies: how can we stimulate positive socialization with regard to academic achievement and problem behavior, resulting in higher achievements and abstaining from or decreasing problem behavior?

To conclude, this thesis broadened our understanding of peer selection and socialization effects. We found that ethnic background functions as a selection criterion for both early adolescents' friendships and casual contacts. Friends are also selected on the basis of minor externalizing problem behavior, but not on the basis of internalizing problem behavior or academic achievement. Language achievement and minor externalizing problem behavior are both socialized by friends, whereas math achievement is not. Overall, these studies indicate that both positive and negative peer influences are possible in schools. The studies offer insights into opportunities and challenges for schools and teachers to support the positive development of students, by promoting intercultural contact and positive scaffolding or socialization of language achievement. With regard to internalizing and externalizing problem behavior, the challenge lies perhaps in setting a normative school climate where lighter norm-breaking behavior does not signal social dominance, or leads to experiencing a feeling of reward.

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