Attitudes to School Teacher and Peers – Mixed Ethnicity Groups Compared to Majority and Minority Student Networks

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Author’s contribution

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ABSTRACT

Aims: The general aim of this study was to investigate students’ attitudes to school, teacher and peers in voluntarily-chosen networks with respect to ethnicity and gender.

Study Design: Self-reports on attitudes were collected from 12-year old students in 77 grade 6 classes in the city of Göteborg, Sweden. Social networks were made up of students who voluntarily and reciprocally chose each other to be with during breaks.

Place and Duration of Study: Sampling of all data autumn 2003. Work up of sociometric data 2016.

Methodology: Based on a previous two-level confirmatory factor analysis, three school factors and four relational factors were identified. Social network analysis of the choices was carried out using a Matlab program identifying reciprocal (bilateral) choices. Three categories of network were identified using the names of their members. Mixed ethnicity networks were compared to majority (Scandinavian), and minority networks (Non-Scandinavian). Members outside networks were labelled “Outsiders”.

Results: One out of five students was classified non-Scandinavian. Non-Scandinavian networks had high scoring for the categories “Interest in School” and “Working Atmosphere”. In Scandinavian
networks, girls were more anxious at school and scored relationships to their classmates and the view of their peers significantly lower than the male students. Girls in this category also felt that disruption in the classroom was more common while the boys were, apparently, more tolerant of it. Within Mixed networks, gender differences were exclusively dependent on Non-Scandinavian students’ attitudes. Non-Scandinavian girls in the Mixed networks were surprisingly similar to their female Scandinavian peers. Individuals outside networks were overrepresented among Non-Scandinavians. They showed weaker relationships with classmates, had more problems with peers and were more anxious at school. Furthermore, they considered disruption during lessons to be common.

Conclusion: Promotion of a mixture of ethnicities appeared best for improving attitudes to school. Immigrant children were overrepresented in the Outsider group, and at risk of rejection.

Keywords: Student attitudes; peer networks; mixed ethnicity; gender differences; outsiders.

1. INTRODUCTION

Many parts of the world now experience large-scale migration due to conflicts and/or poverty. Immigrant children are forced to experience new countries and hopefully adapt to new surroundings and schools. There has been significant immigration to Sweden over the last few decades, particularly in recent years. Although immigrant students are generally optimistic about the schooling opportunities in their new country, many educational problems remain unsolved. The quality of adaptation among immigrant students may be evaluated from their school engagement [1]. Recently, Chiu et al. [2] published an OECD-PISA-study of 41 countries around the world, including 27 from Europe. Immigrant 15-year old students had better attitudes toward school compared to native students, but immigrant students also exhibited a weaker sense of belonging to school. Our study, carried out in Sweden, is an attempt to evaluate further student attitudes towards school, teacher and peers in relation to network ethnicity. It covers whether differences exist in attitudes between Scandinavian, Non-Scandinavian or within Mixed networks and examines whether gender differences are significant among these three groups.

1.1 Immigrant Children and Attitudes in Classrooms

Migration exerts a tremendous stress on families leaving their home country. The work of Suárez-Orozco et al. [3] focused on new arrivals in the US. The largest immigrant groups came from Central America, China, Mexico, along with Dominican and Haitian students. Suárez-Orozco et al. [3] considered that a complete understanding of the complexity of immigration was difficult but that focusing on schooling was constructive. They concluded that immigrant students at a group level were dependent on their own abilities to negotiate and float between multiple identities. For low achievers, it was difficult to become part of multi-layered networks.

For immigrant students, the interrelationship between national and ethnic identity is crucial, impacting on their well-being. The interplay between the attitudes of the newcomers and the reactions from the new society they find themselves a part of is something that these students find challenging. The strength of a developed identity relies on both support to maintain ethnicity and the pressure experienced from assimilation. The combination of strong ethnic and original national identity promotes a more successful adaptation to new surroundings. Being familiar with one’s ethnicity and cultural origin seems highly valuable [4].

It is well known that immigrant students generally have very positive attitudes towards school [5,3,2,6]. Daily interactions at school for newly arrived immigrant children may help them to adjust their high expectations. Also, when students are curious and interested in their schoolwork, they are more likely to try harder. The construction of a partly new identity creates new opportunities but also a set of constraints on future directions. For newcomers, all learning situations include a social risk of not knowing or understanding what is going on, and a substantial risk of feeling ashamed and inferior. The development of negative attitudes towards school over a number of years is known to be overrepresented among low-achieving students. One fact that reflects this negative trend is that only eleven percent of immigrant children improve their attitudes substantially [3]; such students are fairly equally distributed through the data by country of origin.
Thijs & Verkuyten [7] investigated 38 school classes representing 5th and 6th grade ethnic majority students. The proportion of co-ethnics in the classroom was not regarded as relevant; instead, children’s ethnic evaluations were related to the existing normative beliefs of their classmates. This bond was evaluated as stronger than ethnic in-group normative beliefs. Thus, in a school context, norms and group norms have a stronger influence on individuals than specific ethnicity.

Both first and second generations may share experiences and stressors associated with lower status. A positive result of this is that the second generation tends to have higher academic achievement. The paradox here is that the first generation in other areas, such as self-reported health and well-being, appear better compared to the second generation [3]. It is worth noting that both first and second generations of immigrant students have demonstrated more positive attitudes towards school than native students [2].

1.2 Relationships and Interaction

By following daily patterns, one can understand how relationships develop. Immigrant youth often come to know teachers and peers as significant individuals who represent the majority culture but, as there are also other newcomers from different countries, this process is fairly complicated. On the other hand, there is generally no difference in academic achievements between different ethnic groups [6]. Students develop academic knowledge along with perceptions of social reality. There is a growing body of evidence that suggests that students learn better in small schools with no more than 500 pupils [3].

It is desirable for pre-adolescent children of the same age to interact with each other [8]. Children who experience low acceptance by their peers thus have less opportunity to adapt socially, potentially disturbing or even undermining their academic progress [9]. Learners with uneven profiles, found among immigrants because of issues such as poor language proficiency, particularly benefit from interaction with peers [10]. If pupils experience only rare positive social contacts in their neighbourhood outside school, they become even more dependent on existing relationships within the school they belong to. It is in these situations that it is essential the school demonstrates coherent strategies towards behaviour in order to promote and develop relationships among all its members [11]. Three factors, “opinions of relationships with peers”, “students’ learning evaluation” and “students’ comprehension of the teacher-student relationship”, play an important part of student well-being at school, and influence the appreciation of belonging to a specific school. Irrespective of ethnicity, a high level of well-being is connected to a number of critical issues in classrooms and has a substantial impact on educational outcomes, including the teacher's own evaluation of the class [12].

Interethnic contact has been shown to be positively related to favourable out-group attitudes in a majority of studies compiled by Pettigrew and Tropp [13]. It cannot be assumed from their study, however, that ethnically mixed schools will promote more tolerant attitudes to immigrants generally, since they did not investigate mixed group settings. Instead, they focused on interracial attitudes. Recently, Janmaat [14] published an investigation of 14-year old native students’ attitudes towards views on inclusion of immigrants. The study covered 14 countries, 13 of them European, and reported that inclusiveness was much stronger in countries with substantially greater numbers of second generation compared to first generation immigrant students. The first challenge for educators is thus to make going to school a good experience for first generation immigrants.

It seems that a substantial part of a student’s cultural adaptation is likely to be built up from what they learn during lessons, field trips and also from the hidden curriculum. This hidden curriculum makes students aware of cultural idioms and codes – often learned with, and from, peers and friends during schooldays. Social relationships provide a sense of belonging but also support information, guidance, role modelling and positive feedback. Such relationships with peers and adults motivate individuals to attend school regularly. A crucial issue related to teacher-student relationships is that teachers nurture and support students they like [3]. Although ethnic minority groups do not generally represent strict homogenous groups, many of these children experience school as a social control environment that is less strict than their homes [5]. This may lead to children testing the boundaries of social acceptability within schools.

In city areas with immigrants, social networks, including peer groups, influence students’
educational performances. In general, networks are also affected by group density. Vermeij et al. [15] found that immigrant children’s opportunities to create relationships with native peers were positively related to being in a classroom dominated by native members. In segregated housing areas, this is rarely the case. A common definition of segregation refers to enclaves, with groups of minorities inhabiting areas with significant social problems [i.e. 16,17,18].

1.3 School and Housing Segregation – A Swedish Example

In Sweden, governmental immigration policy including assimilation goals changed from 1975 onwards [19]. Increased segregation could be seen due to changes in housing from the 1990s [20]. Thus, substantial residential segregation [21] took place in, for example, Gothenburg, a metropolitan area where this investigation was carried out. A great variability of ethnicity between school classes was found in the same area [22,23]. The majority of immigrant children growing up in segregated areas are surrounded by co-ethnics and, if the families can only access limited educational resources, this has been shown to have a negative effect on compulsory school results [24]; the free choice of school in Sweden also has an effect [21]. However, Bunar & Kallstenius [25] found that students who stayed in their urban schools were satisfied with the overall quality of their education. Their criticisms were related to specific teachers or the classroom atmosphere. These authors also analysed anxiety and uncertainty among immigrant children in Stockholm, Sweden. Those negative feelings were related to being less confident using the Swedish language or how to behave properly as defined by their peers.

The variation in ethnic population density and educational ambition in different neighbourhoods is often considerable. A substantial within-school variation occurs due to a number of variables including family background, parental education level and individual student profiles [24,21]. For a minority of immigrant children, Bygren & Szulkin [24] found a positive effect of growing up in an ethnic enclave. This minority of immigrant students had educational and/or economically successful backgrounds and lived in co-ethnic environments. However, for the vast majority of immigrant children, their education was negatively influenced by growing up in ethnic isolation. These students wanted greater collaboration with schools where ethnic Swedes were in the majority. At present, the Migration Agency in Sweden reports that 4% of the schools receive one third of newly-arrived immigrant children. In some schools, there are few or no Swedish children.

Scandinavian countries such as Sweden have previously used extensive programmes of culture knowledge information and training in the Swedish language, and have also provided direct economic support to immigrant families [20]. Nowadays, this approach is used less, due to massive immigration in 2015. Bunar [26] analysed the Swedish school choice policy, particularly outcomes affecting cohesion related both to social and ethnic integration and segregation. Currently in Sweden, 645 independent schools educate about 12% of all elementary level students. A challenge for highly segregated schools has been to facilitate an environment that fosters a warm, safe and inclusive school climate. The tendency for the majority of newcomers to attend a small number of comprehensive municipal schools has exaggerated school segregation.

In a recently published study from Gothenburg, it was found that students’ choices of peers to work with during lessons had an equal strength of coherence, independent of the type of network i.e. Scandinavian, non-Scandinavian or mixed origin [23]. Thus, segregation within schools was at least partly neutralised by peer effects as seen in students’ voluntary choices.

1.4 Gender Differences

Zosuls et al. [27] and Holfve-Sabel [28] both reported that girls generally had more negative feelings about peers compared to boys. On the other hand, girls were more interested in school and often more fond of their teacher. However, girls were more anxious [28].

In many educational settings, there are supposed to be equal numbers and influence of genders due to a common presumption about equal attendance. However, poor social functioning was accompanied by less support from classmates and weaker social acceptance. Girls with higher levels of social anxiety typically reported having fewer friends and less intimacy, companionship and support. For boys, social anxiety was not typically related to friendship qualities. Social avoidance was associated with a perception of less support and competency in a boy’s close friendships [29]. The intersection
between gender, social class and immigrant background is well known, even when examining physical inactivity as Wells et al. [30] did, but in our study, the magnitude and direction of gender differences across ethnic groups are of general importance [31].

1.5 Theory

Educators, as well as parents and students themselves, usually want more than just knowledge from education. Typically, all parties also expect development of students’ identities. In educational settings, the formation of students’ social roles, world views and values are never truly separate from academic learning [32]. During pre-adolescence, every student makes personal observations and has experiences with others, which become further developed during adolescence. Together, childhood and adolescence are supposed to make the individual ready to cope with adulthood. Identity reflects one’s unique human beliefs including dependence on a collective history of one’s “people”. Identity also reflects one’s personal characteristics. Every student strives and learns about themselves mediated through the groups that surround them. The most important groups consist of mutual members. Typically, an individual seeks a group which represents selfsameness. In other words, between childhood and through adolescence, all individuals struggle to find their place which is understood to be through acceptance within a group. The process includes assimilating sociability and undertaking a competitive apprenticeship especially among age-mates. The community’s response to this need for contact goes beyond recognition of achievement. All acquaintances with other adults and children in school build up an increasing sense of identity which can promote psychosocial stability. To sum up, each growing individual searches for identity and continuity along with their personal character. These two aspects of well-being or ego synthesis are partly observable in behaviour. Maintaining a sense of solidarity with a group, its ideals and identity, is necessary as an adult. That group may be one of gender, class membership or nationality [33].

1.6 Aims and Research Questions

The general aim of this study was to investigate students’ attitudes to school, teacher and peers in voluntarily-chosen networks with respect to ethnicity and gender.

Research questions:

1) What differences are there in attitudes between networks of mixed ethnicity compared to majority (Scandinavian) or minority students (Non-Scandinavian)?
2) What characteristic differences in attitudes among individuals outside networks (Outsiders) are found in comparison to students within networks?
3) What gender differences among the three groups are most prominent?
4) In mixed networks, how can the attitudes towards, and adaptation to, Swedish schools of Scandinavian and Non-Scandinavian students be described with respect to gender?

2. MATERIAL AND METHODS

Self-reports about attitudes from 12-year old students in 77 grade 6 classes in compulsory school were sampled. The headmasters of 30 schools agreed to participate. The schools represented 18 of the 21 administrative districts of the city of Gothenburg, Sweden. All parents of children at these schools were informed of the study by letter. Parents could prevent their offspring from participating by signing a special note. Only 26 students were excluded from participation by their parents. An important issue in this study was the protection of personal identity. Although the teachers and the investigator in most cases were technically able to identify national origin, these data were not given in details of the study or published. The most common questions from participating schools were typically related to how anonymous identities were used. The procedure used meant that specific country of origin or native language data would not be used in any results. These guarantees were given in advance to parents’ headmasters and teachers and resulted in mutual respect with an extremely low rate of missing data. The remaining 1670 students belonged to 77 school classes. During the sampling procedure, 130 students were ill or absent for other reasons. Thus, 1540 participated and answered a 71-item questionnaire with a 5-point Likert scale. The responses were coded 1 – 5 with the most positive alternative scoring 5 and the most negative alternative scoring 1. Negative statements were given reversed coding.

The questionnaire’s initial 40 items were constructed by Johannesson and Magnusson [34], while the next part consisted of 31 items.
described in Holfve-Sabel [35], study III. The original questionnaire had thus been previously tested and published, while the new part had to be tested in a pilot study. To ensure there was a good validity of responses from the sixth-grade students, the complete 71-item questionnaire was distributed in a medium-large sized school with about one hundred sixth-grade students. Afterwards, imprecise or old-fashioned sounding statements were improved. To ensure that the procedure was carried out the same in each school, the researcher decided to be present each time. A 40-minute lesson was used, during which verbal instructions were given to the students, who then read and filled in the questionnaire.

The students’ responses to the initial 40 items were used in confirmatory factor analysis of individual (within-class) level and between-class level [36,35]. Details relating to software, item loadings, ICC, model fit, validity and reliability are described in these references. For the within-class level, seven attitude factors were found. “Interest in School” (IS), “View of Teacher” (VT), and “Work Atmosphere” (WA) were labelled “school factors” while the other four were labelled “Relational factors” i.e. “Relationships to Classmates” (RC), “View of Peers” (VP), “Lack of Anxiety” (LA) and “Perception of Disruption” (PD). The last factor was renamed from “View of Fuss” in the previous reference [36]. All factors were presented as z-scores for each student. Individual scores were also estimated for “Students’ Well-being” and “Students’ Learning”, each consisting of 7 items from the second part of the questionnaire. A detailed description of these data, including factor loadings and fit, is given in [12]. In the present investigation, only within-class level factors were included. Between-class level had a specific factor value for each school class. Thus, with several student networks in each school class, further information about differences within the classroom networks could not be obtained from the between-class level.

In this study, social networks were made up of students who voluntarily and reciprocally chose each other to be with during breaks. Each respondent selected three peers in order from 1 to 3. Social network analysis of the choices was carried out using a Matlab program [37] for computation of semi-symmetrised matrices, identifying reciprocal (bilateral) choices. Semi-symmetrisation disaggregates the network, removing all links which appear in just one direction. As a consequence, the resultant network represents individuals in closed settings. The resultant semi-symmetrised networks are irreducible since they cannot be divided into smaller units. The networks formed during breaks can be seen as representing friends, each involving two or more students. The interpersonal data were given numerical weights: 0.6 for the first choice, 0.3 for the second choice and 0.1 for the third choice. The highest eigenvalue of the network indicated the coherence of each network [37].

The reasons for using the categories Scandinavian and non-Scandinavian have previously been discussed in detail in Holfve-Sabel [23]. Three categories of network were identified using the names of their members. Networks consisting solely of members with Scandinavian names were labelled category 1, and networks with only non-Scandinavian names were labelled category 2. Mixed networks, consisting of students of both Scandinavian and non-Scandinavian origin, were labelled category 3. Members outside networks were labelled “Outsiders” i.e. they had not been chosen reciprocally and thus not preferred by any classmate during breaks. Information about first-generation or second-generation migrant status was not available.

Data were analysed using IBM SPSS Statistics 23.0. One-way ANOVA with Tukey post-hoc test, t-tests and Pearson correlation were used; when appropriate, the non-parametric tests Kruskal-Wallis (K-W) and Mann-Whitney (M-W), as well as WinPepi statistical software for epidemiologists (χ² test) were also used. Statistical significance was considered when P was less than .05. Eta squared (η²) and Cohen’s d (using pooled standard deviation) as well as Cohen’s w were used to illustrate effect size.

2.1 Strengths and Weakness of the Study

This study comprised of 77 school classes representing 18 of the 21 administrative districts of Gothenburg so the results are generalisable for a city with substantial residential segregation and a great variability of ethnicity between school classes [22,23]. A main part of the study was carried out before a substantial increase in the number of independent over public schools, which is likely to have underlined educational segregation [21]. Only two categories of ethnicity were considered, Scandinavian or Non-Scandinavian. Even with this rather rough
division, results were rather clear-cut between the groups. Elffers & Oort [6] also found that there was generally no difference between categories of ethnic background. It may be argued that surnames form a crude method to separate Scandinavians from non-Scandinavians. The lists of class members were used for this classification. Non-Scandinavian names were, in most cases, easy to identify as most originated from the Balkans or the Middle East. The teachers’ information corroborated the native language classification [23]. However, the method did not discriminate between generations of immigrants. Significant differences between groups were supported by effect sizes of between low to medium up to high [24].

3. RESULTS

There were 1197 students (52.1 % girls) who reciprocally chose each other in preference to play with during breaks, while 280 individuals (58.6 % boys) remained Outsiders. About one fifth of the total numbers of students were classified non-Scandinavian (19.9 %). The average number of students in the classes was 22 (range 13 – 30). Of the 77 school classes, 19 had Scandinavian students only, while 57 classes consisted of different ethnicities. In 11 of these classes, students with Non-Scandinavian backgrounds formed the majority (more than 50%). In one class, all were Non-Scandinavians.

There were 324 identified peer networks. A great variability between networks was found for all attitude factors. For “Students’ Well-being”, the effect size (η²) was 0.51. The second largest variation was related to “Students’ Learning” (0.45), “Interest in School” and “View of Peers” were two factors with the same effect sizes (0.38). “Lack of Anxiety” (0.37) was followed by “View of Teacher” and “Relationships to Classmates”, both 0.35, while “Working Atmosphere” and “Perception of Disruption” had slightly lower effect sizes (0.33). Thus, in all the 9 factors, there were considerable differences in attitudes based on the small group level.

There were 201 networks with only Scandinavian members, representing 746 individual students. Solely Non-Scandinavian members were found in 27 networks (75 students); 96 networks consisted of both Scandinavian and Non-Scandinavian members. This Mixed category contained 375 students. There was a difference in network sizes between the 3 categories. The smallest network size was found for Non-Scandinavian networks (category 2); median 2, range 2 – 5 members, compared to Scandinavian networks (category 1) median 3, range 2 – 9. A somewhat larger network size was found in the Mixed category (category 3) with median 3, range 2 – 11. There was a significant difference in network size between the three categories (Kruskal-Wallis, P .005), but no difference between categories 1 and 3. The coherence of the 3 categories of networks showed no significant difference when examining the highest eigenvalues (Kruskal-Wallis, P .108).

3.1 Comparison of Attitudes between the Three Categories

Members’ attitudes within the three network categories were analysed using ANOVA. The most striking difference was related to the factor “Interest in School” (Table 1). The Non-Scandinavian members were most positive. They had the highest score, with a significant difference (P.000), and largest effect size in comparison with category 1 (Scandinavian) (d 0.84) and the Mixed category (d 0.70). No difference related to “Interest in School” was found between categories 1 and 3 (P.138). A similar pattern was seen for the factor “Students’ Learning”, with Non-Scandinavians having a mean score of 27.1 +/- 3.21 (SD) in comparison with Scandinavians, mean 25.6 +/- 3.55, P .003 (d 0.44). Similarly, a significant difference was found between Mixed networks, m 25.7 +/- 3.71 and Non-Scandinavians, P .009 (d 0.39).

The Non-Scandinavian category also rated “Working Atmosphere” significantly higher than Scandinavian pupils (P .012, d 0.37). A similar discrepancy was found between the Non-Scandinavian and Mixed categories (P .019, d 0.34). Fig. 1 shows the repeated pattern for the factors “Interest in School” and “Working Atmosphere” with Non-Scandinavians being more positive in their attitudes.

For the factor “View of Teacher”, no significant differences were found between the three groups. However, the Scandinavians had a negative mean value (Table 1). In the relational factor “View of Peers”, no significant difference was found, but here Non-Scandinavians scored a negative mean value. For the remaining relational factors, and for “Students’ Well-being”, no significant differences existed.
The main findings were thus the high scoring for “Interest in School”, “Student Learning” and “Working Atmosphere” among Non-Scandinavian networks.

3.2 Outsiders

Of the individuals outside the networks, 205 were Scandinavians and 74 Non-Scandinavians. There were no differences of attitudes in any of the 9 factors (including “Student Learning” and “Student Well-being”) when the two ethnicities among Outsiders were compared. There was an overrepresentation of Non-Scandinavians among Outsiders in comparison to the network members ($P = .002$, Cohen’s $d = 0.86$), indicating a small effect size. The scores for the group of Outsiders were then compared with the three categories of network. No difference was found for “Student Well-being”, “Interest in School” and “Student Learning” as well as “Working Atmosphere” were at the same level for Outsiders as for categories 1 and 3 while “View of Teacher” did not differ. For the factor “Relationships to Classmates”, Outsiders were compared to category 3 and scored lower in this comparison ($P = .018$, M-W). This pattern was repeated for “View of Peers” ($P = .018$, M-W) as well as “Lack of Anxiety” ($P = .022$).

For “Perception of Disruption”, no difference was found between Outsiders and category 3, while categories 1 and 2 scored higher than Outsiders ($P = .011$ and $P = .027$ respectively).

Thus, Outsiders had weaker relationships with classmates, had more problems with peers and were more anxious at school. In comparison to...
Scandinavian and Non-Scandinavian students, they also considered disruption during lessons to be more common.

3.3 Gender Differences for Attitudes within the Three Categories

When the three categories were reinvestigated with respect to gender, some interesting differences and similarities of attitudes were apparent. In Scandinavian networks, “Interest in School” was more profound for girls (n = 388) in comparison with boys (n = 358), (P < .000, d = 0.31), while no gender differences were apparent in the two other categories (Fig. 2). The gender difference in “Students’ Learning” was less striking (Figure in Appendix).

For the factor “View of Teacher”, girls (n = 34) in Non-Scandinavian networks had a more positive view than boys (n = 41), but this was not statistically significant (P = .100). However, for “Working Atmosphere”, Non-Scandinavian girls were significantly more positive (P = .044, d = 0.48). For Mixed networks, a small difference was found, with boys being more positive (n = 174) than girls (n = 201). The same existed for “Relationships to Classmates” (P = .030, d = 0.22).

For the factor “View of Peers”, there was an apparent gender difference for Mixed networks. These girls had lower and more negative opinions of their classmates than boys (P < .000, d = 0.38), but no gender difference was found in the Scandinavian category.

The factor “Lack of Anxiety” showed girls in Scandinavian networks to be more anxious and insecure in school than boys (P < .000, d = 0.48), as were boys and girls in Mixed networks (P = .019, d = 0.25).

Fig. 2. Differences in attitudes by category and gender. Boys on the left in each category

Boys in Mixed networks were more tolerant of classroom disruption than their female peers ($P = 0.044$, $d = 0.21$). The score for “Students’ Well-being” did not reveal any differences between genders or categories.

To summarise, in Scandinavian networks, boys scored generally low for “Interest in School”, but this gender pattern was not repeated in the two other network categories. Girls were more anxious at school in Scandinavian networks, with the same tendency seen in Mixed networks. In these networks, girls scored relationships to their classmates and the view of their peers significantly lower than the male students. Female students in this category also felt that disruption in the classroom was more common while the boys were, apparently, more tolerant of it.

### 3.4 Correlations between “Interest in School” and the Other Attitude Factors

For Scandinavians, “Interest in School” was strongly correlated to “Working Atmosphere” ($r = 0.72$). A moderate correlation existed between IS and “Students’ Learning” ($r = 0.52$) and between IS and VT ($r = 0.50$). For Non-Scandinavians, the correlations between IS and other factors were generally weaker in comparison to Scandinavian students. Furthermore, a medium correlation was found between IS and WA ($r = 0.53$); the correlation between IS and “Students’ Learning” was $0.39$. Interestingly, the correlations between IS and VT and VP were even lower ($r = 0.22$ and $0.20$, respectively). For Mixed networks, strong correlations were found for IS with WA ($r = 0.73$), and between IS and “Students’ Learning” ($r = 0.63$). The “View of Teacher” showed a medium correlation to IS ($r = 0.51$).

One similarity between Scandinavian and Mixed networks was the weak correlation between IS and “Lack of Anxiety” ($r = 0.08$ and $r = 0.11$ respectively). Another similarity between Non-Scandinavians and Mixed groups was the correlation between IS and “Relationships to Classmates” ($r = 0.36$ and $0.37$, respectively). For Scandinavians, this correlation was lower ($r = 0.29$). The correlation between IS and “Students’ Well-being” was strongest for the Mixed network ($r = 0.42$), somewhat weaker for Scandinavians ($r = 0.37$), and rather weak among Non-Scandinavians ($r = 0.25$). Thus, Scandinavian and Mixed networks seemed rather similar in their overall attitudes.

### 3.5 Members’ Attitudes in Mixed Networks with Respect to Ethnicity and Gender

The next step was to investigate the attitudes of students from Mixed networks with respect to individual ethnicity (Scandinavian or Non-Scandinavian) and gender.

Within the same network, individuals of Scandinavian origin ($n = 230$) in Mixed networks were compared with their Non-Scandinavian peers ($n = 144$). Non-Scandinavian students had higher scores for “Interest in School” ($m = 0.223 \pm 0.97$) in comparison to Scandinavian peers ($m = 0.087 \pm 0.97$; $P = 0.003$, $d = 0.32$). For “View of Teacher” and “Work Atmosphere”, there were only minor differences between the two ethnicities. Non-Scandinavian students appeared somewhat more positive concerning “View of Teacher” ($P = 0.042$, $d = 0.22$) and “Work Atmosphere” ($P = 0.040$, $d = 0.22$). In the four relational factors, mean scores were slightly higher among Non-Scandinavian students, but were not statistically significant.

When gender was factored in, differences were revealed solely among Non-Scandinavians, (Fig. 3.). Here, the boys ($n = 64$) had stronger opinions than girls ($n = 80$) concerning four factors: “Work Atmosphere” ($P = 0.019$, $d = 0.40$), “Relationships to Classmates” ($P = 0.004$, $d = 0.50$), “View of Peers” ($P = 0.000$, $d = 0.63$), and “Perception of Disruption” ($P = 0.002$, $d = 0.53$).

Overall, the gender differences within Mixed networks were exclusively dependent on Non-Scandinavian students’ attitudes. Non-Scandinavian boys had stronger opinions about “Work Atmosphere”. They valued their relationships with classmates and peers higher and considered disruption during lessons not to be a big problem. Non-Scandinavian girls in the Mixed networks were surprisingly similar to their female Scandinavian peers.

### 4. DISCUSSION

This study examined network building in combination with student attitudes in their different networks. Identification building partly occurs during this period of schooling, especially as a result of individual contact seeking in the pre-adolescent period [33]. Our investigation has expanded the knowledge about immigrant students’ attitudes towards school, teacher and peers. As with a number of international studies [5,3,2,6], immigrant adolescents showed better
Fig. 3. Attitudes in Mixed networks by ethnicity and gender. Boys on the left in each category

Upper left: Work Atmosphere. Non-Scandinavian girls did not like Work Atmosphere as much as Non-Scandinavian boys. Upper right: Relationships to Classmates. Non-Scandinavian girls had a lower opinion of their classmates than boys. Lower left: View of Peers. Non-Scandinavian girls did not like their peers as much as the boys did. Lower right: Perception of Disruption. In contrast to girls, boys with non-Scandinavian names thought disruption during lessons was not a problem. Notice that there are no differences between Non-Scandinavian girls and Scandinavian students in any of the four variables.

attitudes toward school compared to native students. However, this investigation demonstrated the dependency of those attitudes on the type of social networks the students belonged to. Non-Scandinavian students, who voluntarily chose similar peers to play with, became members in networks representing non-majority ethnicity. These Non-Scandinavian networks were fewer in total number and smaller in size. The network coherence strength was equal to that of other network types implying a tight bond between the network members and thus indicating a tendency towards traditional segregation [39]. In this investigation, it has not been confirmed whether the Non-Scandinavian network category comprised newly-arrived immigrants only and/or children from families living in highly segregated neighbourhoods. Newly-arrived immigrants are known to be more likely to choose contact with individuals of similar background [3]. The finding of better attitudes for “Interest in School” in members of Non-Scandinavian networks was corroborated by similar results for the factor “Students’ Learning”, reflecting the students’ evaluation of their own learning [12]. Another characteristic of this category was the strikingly positive attitudes towards “Work Atmosphere”. This attitude may be due to being surrounded by a prosocial peer group. On the other hand, it has been shown that children at most risk are those with strong social support from their peers but with a lack of support from teachers and parents [40]. This category pattern appeared isolated and may therefore be interpreted from another angle. These students’ engagement may represent family interest in shaping a new and successful acculturation. Taken together with a substantial
non-critical evaluation of the “Work Atmosphere”, and low correlations to other factors such as “View of Teacher” or “View of Peers”, this can also demonstrate behavioural as well as social code insecurity [25]. The absence of enthusiasm for the teacher and classmates in general can possibly be related to family expectations i.e. strong ethnic but weak national identity. Pressure for assimilation can initially be weaker than struggling for ethnic maintenance [4]. It is also known that minority groups of children may see school as a social control environment that is less strict than their own home [7].

Mixed networks consisting of both Scandinavians and Non-Scandinavians voluntarily choosing each other occurred in a majority of classrooms. Classroom contexts always differ from each other. The situation still includes sharing a great deal of time as well as activities [41]. Non-Scandinavian members within Mixed networks still demonstrated more “Interest in School” compared to their Scandinavian network peers. Furthermore, students of Non-Scandinavian origin showed a number of attitude similarities with their Scandinavians peers in the other factors. One conclusion might be that acclimatisation has occurred through daily contact with Scandinavian classmates. This emphasises the idea that schools are the most important social contexts during both childhood and adolescence [42]. Immigrant children in Mixed networks more easily understand the hidden curriculum including cultural idioms and codes, which are less concealed when non-Scandinavians only interact with the same category as themselves. Young students are dependent on becoming integrated into social networks within their new environment [43].

It cannot be confirmed whether the immigrant children investigated represented first or later generations. Chiu et al. [2] found that both first and second generations of immigrant students did not differ in positive attitudes towards school compared to native students. In this study, ethical considerations determined what kind of potentially sensitive information should be obtained, such as detailed origin information or date of arrival to the new country. From other studies, it is known that second generation immigrants learn a new language more easily than first generation ones and are therefore more likely to have greater academic ambitions [3]. Another complication may occur if individual native teachers feel uncomfortable with immigrant students who speak a different language and have unfamiliar cultural backgrounds [3]. The most positive school situation occurs when Non-Scandinavians are within less segregated schools with mixed ethnicities and tolerant, curious teachers. The teacher’s own evaluation of the classes where the students scored very high or very low “Well-being” is connected to a number of critical issues in classrooms which impact on educational outcomes [12]. Significant others for migrants can also be policymakers, scholars or headmasters with mandates to make decisions that incorporate thriving immigrants [44].

The sense of belonging is likely to be strengthened among students in Mixed networks. Irrespective of school class or school district, students actively seek contact with peers in order to become friends with, and thereby indirectly support, school communities in their attempts to counteract segregation [23]. Opportunities to build relationships are positively bound to classrooms dominated by native members. When this was not the case, minority members clearly preferred their own ethnicity group [15]. However, the majority of immigrant children’s educational careers were negatively influenced by growing up in ethnic isolation. These students required more help from schools where ethnic Swedes represented the majority, according to Bygren & Szulkin [24].

The quality of peer relationships can reveal the strengths and weaknesses that characterise individual children. To establish a stable membership necessitates active attempts to seek roles and memberships. Affective systems also include interactional perceptions of oneself and others. The attitudes encompass a continuum from positive favouritism to negative prejudice [45].

The school environment includes exposure to the risk of exclusion which undermines the venture of looking for trusting relationships in classrooms. For adolescent immigrants, acculturation includes school adjustment and an orientation toward mainstream culture [46]. In this study, non-Scandinavian ethnicity was overrepresented among Outsiders. They also scored lower in three Peer Relational factors compared to students within Mixed networks. Outsiders did not score differently for “Interest in School”. They admitted to weak relationships with classmates, viewed their peers as less reliable and were more anxious at school. In comparison with Scandinavian and Non-Scandinavian students,
they also considered disruption during lessons to be more common, which may point to a serious problem of teacher authority. In school, feelings of abandonment can occur. An individual adolescent may respond to such situations by becoming depressed. Without social relationships, a student loses assistance, information, role models and especially emotional support [3]. Also, successful individuals with, for example, high grades or those representing improvers among newcomers, have no personal guarantee of psychological school satisfaction [5].

The challenge of education for children in minority groups becomes exacerbated if this status occurs in combination with low income, low parental education and/or having a single parent family [46,47]. It is also known from longitudinal studies that children who are defined as successful school improvers only make up 11% of the total number of children in school, irrespective of countries of origin [3]. A positive relationship was found for high achievers and higher levels of parental education especially among mothers. These results agree with the rough categorisation in this study. Another conclusion is that parental levels of schooling are more relevant than specific ethnicity.

This study relied on bilateral choices of peers to play with. The chosen method required mutual appreciation and is thus a rigorous sociometric method [37]. The strict procedure made it possible to scrutinise attitude profiles among Outsiders during breaks. Their senses of “Well-being” and “Learning” at an individual level did not vary from those in Mixed networks. It has been observed previously that these factors were better suited for describing differences at a class level than from an individual perspective [12]. However, the methodological limits have to be accepted. Furthermore, since learning performance was evaluated from subjective responses only, it can neither be rejected nor confirmed whether the minority groups present had poor academic results [48].

The focus of this study concerned interactions during breaks, which represent an extremely important domain during adolescence [e.g. 49,50]. In an earlier investigation [51], the group “Lonely students” made up 8.5 % of the total sample. In that study, the definition of “Lonely” was students who were neither chosen to be worked with during lessons, nor to be played with during breaks i.e. a more rigid definition than used here. In this study, lonely individuals belong to the category “Outsiders” (18.9 %), not chosen to play with, but some of them may well be good to work with during lessons. Of all Non-Scandinavian students present in school, one quarter were Outsiders in this study. Jimenés-Barbero et al. [52] found in an intervention program, called “count on me”, that students aged 12 – 15 years were fairly resistant to adult social initiatives concerning playground activities. To introduce new behavioural recommendations, such as incentives for inclusion during free activities, is a huge challenge [e.g. 53].

Traditionally, boys demonstrate a weaker interest in School factors [28]. This pattern was repeated within Scandinavian networks but, in Mixed Networks, this gender difference disappeared. Furthermore, in Mixed networks, Scandinavian boys and girls showed no significant difference in scores for Relational factors. However, their non-Scandinavian peers demonstrated a significant gender difference (Fig. 3). The Non-Scandinavian girls in the Mixed Networks expressed similar attitudes to their Scandinavian girl peers, while the Non-Scandinavian boys scored higher. Girls are known to work harder and be more flexible when striving for success within social arenas [54]. Boys, on the other hand, try to distance themselves from authorities in order to gain respect [55]. Schachner et al. [46] investigated acculturation among adolescent immigrants who were second or third generation. The complexity of integration was shown to encompass family beliefs and cultural practices. Both for socio-cultural and psychological reasons, it is less complicated to conform to the mainstream culture. In this study, girls seemed more likely to follow this pattern. Wang & Eccles [49] reported a decline in school compliance during 7th grade for boys and African-American adolescents. The latter group reported a higher risk of having discipline problems in school. The researchers concluded that strong support from peers in combination with a lack of support from teachers represented a risk. In this study, Non-Scandinavian boys in Mixed networks gave high scores for “Work Atmosphere” and considered “Disruption” to be unproblematic. This enthusiasm was not shared by any other category in Mixed networks. At the same time, this group of boys recorded having good relationships with classmates in general. In their longitudinal study, Suárez-Orozco et al. [3] stated that immigrant youth are exposed to stressors associated with lower status. Boys and girls handle this exposure differently. Both genders
show a general optimism about their opportunities in their new settings, but boys are more exposed to risk factors. The possibility of creating trusting relationships is strongly threatened if students are exposed to the fear of violence.

Conclusions to be drawn from theoretical, empirical and scientific sources within the field all focus on the complex bonds between understanding a new culture, a new language and national policy for creating democratic schools. Also, local policies [4] have a substantial effect on immigrants’ opportunities and choices. According to Garcia Coll & Marks [45], every child who sees discriminatory acts is likely to behave in a similar way towards others. The researchers noted the complication that humans generally have a stronger tendency to see discrimination than to admit their own involvement in such negative actions. It is possible that, for example, tendencies to discriminate among the “Outsiders” could exist.

5. CONCLUSION

In summary, the main finding of note was the high scoring for the categories “Interest in School”, “Student Learning” and “Working Atmosphere” among Non-Scandinavian networks. However, individuals outside networks were overrepresented among Non-Scandinavians. They showed weaker relationships with classmates, had more problems with peers and were more anxious at school. Furthermore, they considered disruption during lessons to be common. In Scandinavian networks, girls were more anxious at school. In these networks, girls scored relationships to their classmates and the view of their peers significantly lower than the male students. Girls in this category also felt that disruption in the classroom was more common while the boys were, apparently, more tolerant of it. Within Mixed networks, gender differences were exclusively dependent on Non-Scandinavian students’ attitudes. Non-Scandinavian boys had stronger opinions of “Work Atmosphere”, they valued their relationships with classmates and peers higher and considered disruption during lessons not to be a big problem. Non-Scandinavian girls in the Mixed networks were surprisingly similar to their female Scandinavian peers.

For both immigrants and native students, it is a formidable task to support the development of identities through schooling. Their final identity will include significant identification with peers. Becoming an Outsider is less desirable and it is necessary to try to prevent that happening. Immigrant children were overrepresented in the Outsider group, and at risk of rejection. Teachers are thus recommended to help such children interact with class members. Furthermore, it can be problematic if smaller networks become too closed. The results of this study could be used to find a mixture of ethnicities that give the optimal score for attitudes towards school, teachers and peers. Educationalists should be better trained to create a safe and orderly school environment, including a focus on teacher socialisation competence [56,12].

CONSENT

The investigation was carried out with the approval of the headmaster of each school. Parents had to approve the participation of their child. The author personally instructed the students and the teacher in each class and collected the questionnaires.

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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Figure in Appendix: Students’ Learning. Differences in attitudes by category and gender. Boys on the left in each category

APPENDIX

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