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Attitudes Towards Immigrants among Youth in Sweden

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Abstract
Attitudes towards out-groups have been of academic interest for a long time, and two often-used theoretical frameworks are intergroup contact theory, and group threat theory. This article combines insights from both to investigating attitudes among youth in Sweden using multiple regression analysis. I seek particularly to understand the role that contact has on reducing attitudes, and what role different contact situations, and forms may play. Specifically contact in schools and the local area is investigated after controlling for the effect of personal friendships. The analysis finds that high quality contact does have an effect on attitudes among Swedish youth even after controlling for background variables. Superficial contact has no additional effect in the investigated context. Group threat effects are also found to be important for the groups that are most directly in competition with immigrants in the labor market.

Keywords
Contact theory, attitudes, xenophobia, youth, Sweden, cross-sectional data

Bio Notes
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Introduction

Immigration has been increasing for many years across Europe, and as a proportion of the population, immigrants are at a record high in many countries, also in Sweden (Hooghe et al. 2008). As the size of the immigrant population increases, the question of how to avoid the development of negative attitudes and other related negative outcomes such as discrimination, hate crime, social exclusion etc. becomes more important. Not only because this potentially affects a larger number of people, but also because an increase in the pace of immigration (Coenders and Scheepers 2008; McLaren 2003), and the presence of a large minority population in themselves have been found lead to more negative attitudes (Giles and Evans 1986; Hjerm and Nagayoshi 2011). In the perspective of group conflict theory the cause for this is an increased sense of threat felt by the majority population when faced with a sizable minority population.

Research tracking attitudes towards immigrants indicate that in Sweden attitudes have been improving continuously for at least the past decade. The picture in other European countries is however highly diverse, both in regard to direction and strength of the change (Semyonov, Raijman, and Gorodzeisky 2006; Meuleman, Davidov, and Billiet 2009). Sweden stands out, with initially more positive attitudes towards immigrants and immigration, and a larger change towards the positive than other countries (Blom 2010; Turner and Cross 2015). A theoretical approach that may explain
how these two developments can occur at the same time is contact theory.

**Aim and research questions**

This article has the overarching aim to improve our understanding of which factors can explain youth’s attitudes towards immigrants. Focus on youth is important for many reasons, firstly the age groups included in this study, mostly ranging from 15-19 years are also the age groups that traditionally figure high on statistics of xenophobic crimes (Wahl 2002; Bjørgo 1997). I therefore believe that identifying factors that can contribute to moderating negative attitudes towards out-groups in this age bracket, and the circumstances under which these are most effective is of significant value. In addition, conditions that affect the attitudes of youth have been found to have a formative effect that lingers also later in life. This is for example illustrated by the effect documented by Coenders and Scheepers (2008) that negative attitudes towards immigrants are higher in age cohorts which growing up in a time period with high unemployment.

In pursuit of the overarching aim I have two underlying goals. I first wish to investigate if Swedish youths’ attitudes towards immigrants are affected by contact, after controlling for factors that are known to explain variations in attitudes. Secondly, I have the methodological objective of assessing the value of using different measures of contact. A common measure of contact with immigrants is their relative numbers in a given geographical area,
often the municipality, town or city (Wagner et al. 2006). While proximity is a usual proxy for contact, and makes contact more likely, it does of course not necessarily mean that there will be any actual contact, or that this contact will be positive. This is a common critique regarding this way of measuring contact that I will attempt to address by using measures of contact on different levels, namely municipality, classroom and personal friendships. So, after controlling for high quality contact in the form of friendship I will attempt to answer the question of whether more superficial forms of contact contribute to explaining variations in negative attitudes beyond what is explained by friendship and the high quality contact that it represents.

**Context**

Sweden during the past decade offers a particular context for this study that might have some effect on the results. As already mentioned Sweden is the country in Europe that has the most positive attitudes towards immigrants, and attitudes have been becoming even more positive in recent years (Turner and Cross 2015). Immigration to Sweden is also relatively large, with a population increase from immigration of over 1% every year since 2006. A total of 21.5% of the population was foreign born, or born in Sweden to two foreign born parents by 2014 (Statistics Sweden 2014a). In the general election following shortly after collection of the data that is used in this thesis the right-wing populist party the Sweden Democrats also had their best election to date, doubling their support from last election (Statistics Sweden 2014b).
Their anti-immigrant message has correspondingly gotten larger attention than previous.

In addition to these general aspects of Sweden, recent years also offer a context of growing up that might have an effect on the attitude development of the participants in the study. They grew up in a social context with increasing unemployment when many experienced economic difficulties in the years following the 2008 financial crisis. According to Coenders and Scheepers (2008) experiences of increased ethnic competition, that may occur with the combination of high immigration and high unemployment, risks boosting negative attitudes towards minorities. So, while people in Sweden in general have the most positive levels of attitudes towards immigrants in Europe, it is not implausible that some subgroups or individuals will differ from the general trend or that the cohorts of youth that participated in the 2013 survey might be somewhat less tolerant than what has been observed in previous years.

**Theoretical framework**

Group threat theory attempts to explain prejudice and intolerance by the relationship between groups, and feeling of threat that arises when a group perceives its relative position in society challenged. Its origin comes from a hypothesis first presented by Herbert Blumer (1958) suggesting that groups have a sense of proprietary feeling to certain positions and privileges in society. When these are perceived to be threatened by another group, prejudice arises as a
defensive reaction. In this sense, prejudice serves the function of preserving the position of the dominant group.

Many different and usually complementary areas of focus within group threat theory have emerged over the years. There is a division between those that see threat as an effect that occurs on the collective level, this builds on early work by Blumer (1958) and Blalock (1967). Others focus on threat at the individual level, the latter building on work by Bonacich (1972), sometimes called self-interest theory. Another distinction exists between those who believe that the focus should be objective sources of threat, and others who argue that it is sufficient that there is perceived to be some sort of threat (Schlueter, Schmidt, and Wagner 2008; Bobo 1983; Quillian 1995).

An influential approach when studying prejudice from a group threat perspective is to focus on the relative size of the minority population as an indicator of threat, this follows the 'power threat hypothesis' developed by Blalock (1967; see also Blalock 1957; T. Pettigrew 1957). This 'group size approach' has been found to have a particularly good explanatory value when it comes to attitudes towards African-Americans among the white majority in the US (Dixon 2006; Fossett and Kiecolt 1989; Taylor 2000; Taylor 1998), but has not been proven to have the same explanatory value outside the US. In the European context, Hjerm and Nagayoshi (2011) has however found that the composition of the minority population is very important for group size to have the predicted
effects. The proportion of Muslims in the immigrant population has an effect similar to that of African-Americans in the US. This is attributed to a sense of cultural threat among the majority, while economic threat only seems to become important for the specific sub-group within the majority population that genuinely competes for resources (ibid).

**Contact theory**

Gordon Allport is commonly described as the father of contact theory. His book *The Nature of Prejudice* (1954) was a comprehensive study of prejudice and intolerance and an attempt to answer a wide array of questions about their origins. These ranged from how and why prejudice and intolerance vary among people, to how they may be reduced, who are common targets, what prejudice is on a psychological level, how may we study these and related questions (Allport 1954). Allport investigated the effect that different types of contact had across a range of different settings and found support for the claim that contact reduces prejudice and negative attitudes. But, while contact in general reduced prejudice, casual contact seemed just as likely to increase it. Allport concluded that:

*Prejudice (unless deeply rooted in the character structure of the individual) may be reduced by equal status contact between majority and minority groups in the pursuit of common goals. The effect is greatly enhanced if this contact is sanctioned by institutional supports (i.e., by the law, costume, or local atmosphere), and provided it is of a sort that leads to the perception of common interest and common humanity between members of the two groups.* (Allport 1954, 281)
Allport’s theory of intergroup contact has inspired a vast amount of research but this still makes up the core of the theory. Recently a lot of progress has been made in the theory’s development, as can be seen for example in Pettigrew & Tropp’s (Pettigrew et al. 2011) work, where both their own and other’s contributions are reviewed in a detailed ‘status of the field’. They conducted a meta-study consisting of 713 independent samples from 515 studies, where they test the central points of contact theory. They found that establishing Allport’s optimal conditions in a contact situation increases the effect of contact, but they are not absolutely necessary. The effect of contact is also found to be significant across different settings, target groups, age groups and geographical areas, as I will elaborate in the next section. In other words, the empirical observations are that contact seems to reduce negative attitudes in more circumstances than what the theory initially predicted.

**Previous research**

The effect of out-group contact on attitudes has been empirically established through significant amounts of research over the past half century (Wagner et al. 2008; See also Brown and Hewstone 2005; Pettigrew and Tropp 2011). An important issue for the study of contact, and development of contact theory, has been to establish to what degree the effects of contact with out-group members are generalizable from the individuals involved in a particular contact-situation to the entire out-group, different situations, or even to different out-groups than those involved. This
has a great importance for intergroup contact’s potential to reduce negative attitudes. Allport (1954) suggested that generalization may be prevented by ‘re-fencing’, a process where people who experience contact do not let their positive impressions of out-group members affect their impression of the group as a whole so that prejudice is only reduced very slowly. Some version of re-fencing is thought to be at work in studies of employment discrimination (Pager and Karafin 2009; Midtbøen and Rogstad 2012). Generalization may also be prevented by social norms that strongly favor a particular behavior or attitude (Pettigrew and Tropp 2011) as has been observed in Minard (1952) and Reitzes (1953) studies of workplace-contact in pre-civil rights US.

However, in more recent research it seems that in the overall picture contact effects are found to generalize far more often than not. Pettigrew and Tropp (2011) find that this is true for generalization from individual to group, from the specific contact situation to other situations, and to other out-groups than those involved in the contact situation. Through what Pettigrew calls the primary transfer effect, contact with individual group members generalizes to the group that these individuals belong. This has been observed in a significant amount of research (Gieling, Thijs, and Verkuyten 2014; T. Pettigrew and Tropp 2011) However, generalization to the out-group seems to be stronger when out-group members are viewed as typical for their group (Hewstone, Rubin, and Willis 2002), and when group membership is salient in
the contact situation (Van Oudenhoven, Groenewoud, and Hewstone 1996)

The secondary transfer effect is the process whereby a reduction in negative attitudes from contact with an individual out-group member generalizes also to other out-groups. Unlike other aspects of contact theory, the secondary transfer effect is not much studied and therefore evidence supporting it is somewhat sparse. In a meta-analysis of contact research conducted by Pettigrew and Tropp (2011), contact with a primary out-group is found to have an effect on attitudes towards secondary out-groups that is only slightly smaller than the primary effect. Further investigation has lead Pettigrew (2009) to conclude that the secondary transfer effect in fact is an independent effect that is not caused by other underlying factors. Evidence also indicates that the secondary effect is strongest when the transfer happens between groups that are similar in status, or objects of similar stereotypes (Sidanius et al. 2010). The perhaps strongest evidence for the secondary transfer effect comes from Nicole Tausch and her colleagues (2010) that tested for its effect across four different settings with both longitudinal and cross-sectional data while controlling for other possible explanations. They found that it was present in all four samples.

There are many identified mediators of contact’s effect on attitudes. According to Pettigrew and Tropp (2008), the most important are reduction in anxiety, increased ability to empathize
with and take the perspective of out-group members, and increased knowledge about the out group. Increased knowledge about out-groups was initially the reason that Allport (1954) thought would cause contact to affect attitudes, but it seems to be the least important of the three in the existing empirical research.

**Data and method**

The data that is used in this thesis was gathered for The Living History Forum (Forum För Levande Historia) by Statistics Sweden (Statistiska centralbyråns, SCB) through a questionnaire given to pupils in 473 school classes from all over Sweden. The population for the study consisted of youth in Sweden in the last year of primary school (årskurs 9) and years 1 to 3 of secondary school (gymnasiums årskurs 1-3). The selection consisted of 10303 students, of these 7391 responded, giving a response rate of 71,7% (Statistics Sweden 2014c). Data was collected between October 2013 and February 2014.

For the purpose of this article the sample has been further limited to only include pupils that are born in Sweden with one or two Swedish parents. This is done to make the group ‘Swedish’ in the data comparable to the general population statistics from Statistics Sweden that is also used, and gives a number of 5670 participants. The number of units included in the multiple regression models is further reduced to 4979 due to item non-response for one or more of the included questions.
In addition to the information gained from the questionnaire, a number of variables were gathered from other sources like the School Registry (Skolregisteret), Pupil Registry (Elevregisteret), and The National Registry (Register över totalbefolkningern, RTB), with the respondents’ permission (Statistics Sweden 2014c).

**Selection and operationalization of variables**

Variables from the dataset concerning respondents’ demographic and socio-economic profile, school situation, perceived conditions in the neighborhood where respondents live, contact with immigrants, and respondents’ attitudes towards immigrants are used. In addition, this is complemented by data from Statistics Sweden’s demographic database, and from the Swedish Labor Office (Arbetsförmedlingen).

**The dependent variable**

The dependent variable, labeled ‘Xenophobia’ is an index-variable that measures respondents’ attitudes towards immigrants, ranging from a low of 0 to 1 indicating the highest level of negative attitude. The index is composed of four questions, with a satisfactory Cronbach’s alpha of .839. Respondents were asked to state how much they agree or disagree with the following statements on a five-point scale:

- Most immigrants are probably nice people.
- It would be okay to live next door to an immigrant.
- Immigrants cannot be trusted.
• There are too many immigrants in Sweden.¹

These questions cover a number of topics related to immigrants, including acceptance of proximity, prejudices and preconceptions about immigrants, and both cognitive and affective dimensions of attitudes, in line with other scales for measuring attitudes (Henry and Sears 2002). They were also used in two previous questionnaires, and together make up part of the data material for three reports on attitudes among Swedish youth (Ring and Morgentau 2003; Lövander 2010; Severin 2014). Table 1 shows youth’s responses to these questions.

Table 1. Responses to xenophobia index questions, total number and proportion

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>I doubt it</th>
<th>Unsure</th>
<th>I think so</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most immigrants are probably nice people</td>
<td>N 302</td>
<td>169</td>
<td>898</td>
<td>1977</td>
<td>2223</td>
</tr>
<tr>
<td></td>
<td>% 3,00%</td>
<td>5,40%</td>
<td>16,10%</td>
<td>35,50%</td>
<td>39,90%</td>
</tr>
<tr>
<td>It would be okay to live next door to an immigrant</td>
<td>N 204</td>
<td>166</td>
<td>631</td>
<td>2926</td>
<td>1641</td>
</tr>
<tr>
<td></td>
<td>% 3,70%</td>
<td>3,00%</td>
<td>11,30%</td>
<td>52,60%</td>
<td>29,50%</td>
</tr>
<tr>
<td>Immigrants can’t be trusted</td>
<td>N 2482</td>
<td>1402</td>
<td>1104</td>
<td>279</td>
<td>145</td>
</tr>
<tr>
<td></td>
<td>% 45,90%</td>
<td>25,90%</td>
<td>20,40%</td>
<td>5,20%</td>
<td>2,70%</td>
</tr>
<tr>
<td>There are too many immigrants in Sweden</td>
<td>N 1427</td>
<td>927</td>
<td>1524</td>
<td>944</td>
<td>711</td>
</tr>
<tr>
<td></td>
<td>% 25,80%</td>
<td>16,80%</td>
<td>27,50%</td>
<td>17,10%</td>
<td>12,90%</td>
</tr>
</tbody>
</table>

¹ The questions in the original language, Swedish: Invandrare är säkert hyggligt folk. Det skulle vara helt okej att bo granne med en invandrare. Invandrare går det inte att lita på. Det är aldeles för många invandrare i Sverige
To arrive at the index score, combined responses to the questions above where normalized to give a value between 0, absence of negative attitudes, and 1 that signifies most negative attitudes towards immigrants. As can be seen in table 2, attitudes vary quite a bit between different subsets of the youth that participated in the study.

Table 2. Mean attitudes towards immigrants among Swedish youth divided by gender, urban setting and school level\track

<table>
<thead>
<tr>
<th></th>
<th>Xenophobia index, mean value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All respondents</td>
<td>0,28</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Boy</td>
<td>0,32</td>
</tr>
<tr>
<td>Girl</td>
<td>0,23</td>
</tr>
<tr>
<td>Urban setting</td>
<td></td>
</tr>
<tr>
<td>Big City</td>
<td>0,21</td>
</tr>
<tr>
<td>Other</td>
<td>0,30</td>
</tr>
<tr>
<td>School level\track</td>
<td></td>
</tr>
<tr>
<td>Secondary school</td>
<td>0,29</td>
</tr>
<tr>
<td>Vocational track</td>
<td>0,39</td>
</tr>
<tr>
<td>University preparatory track</td>
<td>0,21</td>
</tr>
</tbody>
</table>

Reliability, validity and use of the term ‘immigrant’

One potential source of uncertainty concerning the quality of the data is the interpretations of questions and terms used in the questionnaire. For this reason, a pilot study was conducted where respondents’ interpretations of questions and terms were analyzed. Particularly a terms like ‘immigrants’ may be interpreted to mean different things. As is pointed out by Bevelander & Otterbeck (2016) ‘immigrant’ has come to be used in a much border way than
simply ‘a person that has immigrated to Sweden’, frequently it is used to mean something other than ‘Swedish’. It often includes people of immigrant decent more generally and is connected to appearance, religion, culture or other identifying traits. The pilot study found that that ‘immigrant’ in fact is a salient social category for youth, and that the broader use of the word corresponded to their understanding. So, while using the label immigrant is something that needs discussion and one needs to be perceptive as to how the term is understood, I believe that it’s use is justified in this study.

**The explanatory variables: Contact**

I use three different variables to measure contact in this paper. The first is whether the respondent has friends who are immigrants or not, and if they have, how many. Two more variables that measure contact were also created, the first uses proportion of immigrants in the respondents’ school class as a proxy for contact, and the second variable uses proportion of immigrants in the respondents’ local area. Local area is measured as the municipality where the respondents’ school is located.

**Friendship**

The friendship variable comes from the questionnaire, where respondents were asked how many friends they have that are immigrants from one of five alternatives: none, a few, several, many, or I do not know. To make it possible to include this variable in the regression models, this variable has been recoded
into a series of four dummy variables with ‘no immigrant friends’ as the reference category.

Friendship with out-group members has in the past been shown to consistently be a strong predictor of positive attitudes. Several studies that use more than one measure of contact has found that friendship with out-group members, averages significantly higher effects on attitudes than more superficial forms of contact and indirect measures of contact (Dixon 2006; Hamberger and Hewstone 1997; T. F. Pettigrew 1997).

Friendships as a form of close affective-tie offers individuals ample opportunity to move past the prejudices and stereotypes that might characterize experiences from more superficial contact. In this regard friendship is the characterizing example of what Pettigrew calls high quality contact. The effect of friendship with individual out-group members has been found to generalize to the entire out-group (Pettigrew & Tropp, 2011). This is thought to happen through an increased ability to empathize, and identify with the out-group facilitated by increased knowledge, changed behavior and reassessment of one’s own group (Pettigrew, 1997). For these reasons, the friendship variable is particularly important to achieve a robust measure of the cross-group contact that the participant youth has, and the effects this may have for their attitudes towards immigrants.
**Contact in school**

The variable for contact in school measures proportion of immigrants in a pupil’s school class. Contact in school offers a measure of long term proximity to out-group individuals, but contact in this situation is not necessarily of high quality. There may be only superficial intergroup contact or, according to past research, sometimes predominantly negative relationships between majority and minority pupils that generalizes to more negative attitudes towards the entire minority group (Stark, Mäs, and Flache 2015; Gieling, Thijs, and Verkuyten 2014). But measuring contact in school as the proportion of the school class that has an immigrant background has the advantage that pupils have a limited possibility to choose who they share a class with, so there is a reduced problem of self-selection bias.

**Contact in local area**

The variable for contact in the local area is expressed as proportion of immigrants in each pupil’s municipality. Contact measured as proportion of immigrants in the municipality is thought to increase the chance of all types of interaction with immigrants. However, its unique contribution beyond the other two contact variables, is to add everyday superficial interactions, and casual contact that may occur with other members of the local community to the analysis.

The use of proportions of immigrants as a proxy for contact may is a source of uncertainty that requires some attention. As has been
pointed out in some previous work, for example by Pettigrew and Tropp (2011), the proximity to a minority that the proxy indicates does not necessarily mean that there is any actual contact. This may be a particular problem when the geographical area being studied is large, as there is room for significant internal differences and the possibility of some areas being segregated is present. To minimize the latter problem, I keep my focus on municipalities, as they are the smallest geographical units for which data exists. As to the former, it is hard to completely satisfy any potential uncertainty. But a correlation measure between number of immigrant friends and proportions of immigrants in the local area, and school class show respectively $r_{ss} = 257$ and $r_{ss} = 287$. This indicates that non-immigrant youth in areas with more immigrants also form more friendships with immigrants, than they do in areas with fewer immigrants. Wagner et al. (2006) also found in a probability survey of German adults that the percentage of immigrants in an area predicts contact opportunities in work and the local area. This was found to increase frequency of contact with immigrants, which again predicted level of prejudice. So, while not necessarily ideal as a measure of contact, proportion of a minority has been found to predict contact well in past research. In this study it also predicts more high quality contact, so I argue that it’s use as a proxy for more superficial form of contact is warranted.

There is also a possibility that the contact in the local area variable may tap-in to threat effects from immigrant population size as
predicted by group threat theory. As mentioned the ‘power-threat approach’ to intergroup attitudes commonly connects proportion of minority population in an area to level of threat felt by the majority, which again predicts attitudes. But this has usually been the case only when measured in a larger geographical area like a larger region, or at the national level (Wagner et al. 2006; Weber 2015).

**Why three different variables for contact?**

The aim with using three different variables for contact is firstly to give a more reliable measure of contact than any of the three variables would offer alone. The tree variables cover contact that occurs in different settings, and contact that is qualitatively different. Secondarily I also wish to differentiate between the contact situations, and assess the effect of contact within them individually. Isolating the effect of friendships from other types of contact is particularly interesting as it may allow for detailed conclusions about for the effect of superficial and if it has a unique contribution to variations in attitudes beyond that of friendship at all.

**Control variables**

I include two sets of control variables in my analysis, the first is a set of structural and personal background variables. The second set of control variables is four different measures of the respondents’
subjective experiences of the two contact situations school and local area.

Age, gender, and education are commonly included as control variables in studies of attitudes because of the significant influence they have been found to have. Generally, it is usually found that older men with low education have the most negative attitudes (Dixon 2006; Schuman et al. 1997; Krysan 2000; Hjerm and Nagayoshi 2011), but the effects may be different in my dataset as it covers only youth, and not the entire population. While older people are usually found to have more negative attitudes than younger people, the reasons for this is unclear due to a lack of sufficiently comprehensive studies (Hjerm 2009). The reasons for women’s slightly more positive attitudes are also unclear and has not been studied extensively.

Education effects have been studied extensively and a higher level of education is fairly consistently a strong predictor of positive attitudes towards out-groups, although the strength of the correlation varies between countries (Coenders and Scheepers 2003). This has been found to be the case across Europe and North-America (Hjerm 2001), and there is much to indicate that it is the education in itself that is the cause, not competing explanations like socially-desirable responding (Vogt 1997; Hainmueller and Hiscox 2007; Wagner and Zick 1995). Because education is measured by year in the data it increases with near perfect correlation to age. Therefore it is not included independently
in the statistical analysis. However, school track is controlled for. There has been found to be a significant difference in attitudes towards various out-groups in past research between pupils in vocational school tracks, and pupils on university preparatory tracks (Severin 2014; Lövander 2010; Gniewosz and Noack 2008).

**Socio-economic background**

Previously it has been found that characteristics of family background are important influences for development in children’s’ attitudes (Fan and Marini 2000; Branch and Newcombe 1986; Gniewosz and Noack 2015). Respondents are mostly still dependents of their parents and still in school. Because of this their socio-economic background in the form of parents’ educational level, and parents’ occupational status is measured instead of socio economic status. This approach is also in line with research done in the past concerning prejudice towards other out-groups (Bevelander and Hjerm 2015).

**Level of unemployment in the municipality**

A higher level of unemployment has been connected to negative attitudes and aggression towards immigrants in past research. Coenders and Scheepers (1998; 2008) find that population cohorts that experience high unemployment in their formative years exhibit more support for ethnic discrimination. By the logic of group threat theory, pupils that live in areas with a high level of unemployment might be expected to have more negative attitudes.
They may be in competition with immigrants for jobs, as the newly educated and immigrants are both likely to compete for entry level jobs. This is thought to lead to an increased sense of economic threat, as has also been found in previous research (Hjerm and Nagayoshi, 2011).

**Urban Setting**

Whether the respondent lives in a large city or in a more sparsely populated area is also controlled for with a dichotomous variable where the central municipalities of Sweden’s largest cities Stockholm, Gothenburg and Malmö are coded as 1, and all other municipalities are coded as 0. This is done to account for difference in attitudes between residents of central urban areas, and more sparsely populated places that have been observed in some past research (Gorodzeisky and Semyonov 2009; Bevelander and Hjerm 2015).

**Controls for Subjective experiences of contact situations**

I also include a set of control variables that concern the different situations where contact is measured. The first two variables concern the local area and measure the degree to which respondents like or dislike their local neighborhood, and whether they experience that there are problems in the neighborhood with things like noise, graffiti, car theft, or similar issues. The last two variables concern the respondents’ school and controls for whether the respondents like their school class, and the quality of the
working environment during classes. The idea behind this is that a hostile environment in the contact situation may prevent contact form having the effects that are predicted in contact theory, or even prevent positive contact altogether.

**Problem of self-selection**

A recurrent problem when using cross-sectional data in studies of contact and attitudes, is that it is hard to distinguish between the effect that attitudes have on contact, and the effect that contact has on attitudes. People with negative attitudes towards immigrants might avoid contact if they can, while people with positive attitudes might seek out contact with immigrants. This makes the direction of correlation between contact and attitudes hard to disentangle. The use of longitudinal research, and a few advanced statistical methods has allowed some investigation of this problem. Both processes likely occur at the same time, however the effect of self-selection has generally been found to be lower than the effect that contact has on attitudes (Pettigrew 1998; Powers and Ellison 1995; Sidanius et al. 2010). This is also in correspondence with what is thought to be the relationship between attitudes and behavior in psychological research. The reasoned action approach (Fishbein and Ajzen 2010) stipulates that our attitudes have a significant effect on behavior, but that that this connection is also moderated by several other factors. While at the same time our behavior has a direct effect on the forming of our attitudes. So, while it cannot be tested with the
current data, past research and theory indicates that we can expect most of correlation to follow the contact to attitudes path.

**Statistical Analysis**

The statistical analysis was performed with a stepwise multiple regression in five consecutive steps, with new variables added to the model for each new step. In the first step (M1), only the structural background variables effect on the attitudes toward immigrants was regressed. In the second step (M2), the effect of friendship with immigrants was added to the model, then contact in school (M3), and contact in the local area (M4) where added in the two following steps. In the last step (M5) controls for the subjective experiences of youth with the contact situations were added. Results of the statistical analysis can be seen in their complete form in tables 3 (model 1-4) and 4 (model 5) below. Some alternative models were also tested, but these gave no significantly different results. Through casewise diagnostics 26 outliers where identified and regressions where run both with and without these. Their removal had no results of consequence for the outcome, so regressions are reported with these included in the data.
Table 3. Multiple hierarchical regression, effect of contact, and control variables on attitudes towards immigrants. Models 1-4.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.369</td>
<td>0.436</td>
<td>0.432</td>
<td>0.432</td>
</tr>
<tr>
<td>Girls, ref. Boys</td>
<td>$-0.075 (0.006)$ ***</td>
<td>$-0.082 (0.006)$ ***</td>
<td>$-0.082 (0.006)$ ***</td>
<td>$-0.082 (0.006)$ ***</td>
</tr>
<tr>
<td>Age</td>
<td>0.004 (0.004)</td>
<td>0.003 (0.004)</td>
<td>0.003 (0.004)</td>
<td>0.003 (0.004)</td>
</tr>
<tr>
<td>School track, ref. primary school</td>
<td>$0.088 (0.011)$ ***</td>
<td>$0.092 (0.011)$ ***</td>
<td>$0.095 (0.011)$ ***</td>
<td>$0.094 (0.011)$ ***</td>
</tr>
<tr>
<td>Vocational track</td>
<td>$-0.069 (0.010)$ ***</td>
<td>$-0.061 (0.010)$ ***</td>
<td>$-0.060 (0.010)$ ***</td>
<td>$-0.060 (0.010)$ ***</td>
</tr>
<tr>
<td>University preparatory track</td>
<td>$0.004 (0.029)$</td>
<td>$-0.006 (0.028)$</td>
<td>$0.003 (0.028)$</td>
<td>$0.003 (0.028)$</td>
</tr>
<tr>
<td>One parent with employment, ref. no</td>
<td>$-0.056 (0.009)$ ***</td>
<td>$-0.054 (0.009)$ ***</td>
<td>$-0.054 (0.009)$ ***</td>
<td>$-0.054 (0.009)$ ***</td>
</tr>
<tr>
<td>One parent with higher education, ref. no</td>
<td>$-0.007 (0.011)$</td>
<td>$-0.007 (0.010)$</td>
<td>$-0.006 (0.010)$</td>
<td>$-0.007 (0.010)$</td>
</tr>
<tr>
<td>Yes</td>
<td>$-0.084 (0.008)$ ***</td>
<td>$-0.068 (0.007)$ ***</td>
<td>$-0.073 (0.008)$ ***</td>
<td>$-0.071 (0.010)$ ***</td>
</tr>
<tr>
<td>Don’t know</td>
<td>$0.011 (0.001)$ ***</td>
<td>$0.012 (0.001)$ ***</td>
<td>$0.011 (0.001)$ ***</td>
<td>$0.011 (0.001)$ ***</td>
</tr>
<tr>
<td>Lives in a big city, ref. no.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment in municipality</td>
<td>$0.000 (0.000)$</td>
<td>$0.000 (0.000)$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of immigrant friends, ref. none</td>
<td>$-0.016 (0.013)$</td>
<td>$-0.018 (0.013)$</td>
<td>$-0.018 (0.013)$</td>
<td>$-0.018 (0.013)$</td>
</tr>
<tr>
<td>One immigrant friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A few immigrant friends</td>
<td>$-0.090 (0.010)$ ***</td>
<td>$-0.093 (0.010)$ ***</td>
<td>$-0.093 (0.010)$ ***</td>
<td>$-0.093 (0.010)$ ***</td>
</tr>
<tr>
<td>Many immigrant friends</td>
<td>$-0.152 (0.010)$ ***</td>
<td>$-0.158 (0.011)$ ***</td>
<td>$-0.157 (0.011)$ ***</td>
<td>$-0.157 (0.011)$ ***</td>
</tr>
<tr>
<td>Does not know</td>
<td>$-0.081 (0.014)$ ***</td>
<td>$-0.082 (0.014)$ ***</td>
<td>$-0.082 (0.014)$ ***</td>
<td>$-0.082 (0.014)$ ***</td>
</tr>
<tr>
<td>Proportion of immigrants in school class</td>
<td>$0.000 (0.000)$</td>
<td>$0.000 (0.000)$</td>
<td>$0.000 (0.000)$</td>
<td>$0.000 (0.000)$</td>
</tr>
<tr>
<td>Proportion of immigrants in municipality</td>
<td>$0.000 (0.000)$</td>
<td>$0.000 (0.000)$</td>
<td>$0.000 (0.000)$</td>
<td>$0.000 (0.000)$</td>
</tr>
</tbody>
</table>

Effects given as unstandardized coefficients B, standard deviation in brackets, and significance levels denoted by asterisk.
Significance levels: *= 0.1, **= 0.05 ***= 0.01.
Results of the Statistical Analysis

In model one only the structural control variables are entered, alone they have a combined explanatory power of $r^2 = .164$, indicating that the selected control variables indeed are important for explaining attitudes. The results largely confirm what has been observed in previous work. Gender has a statistically significant impact on attitudes, with boys having more negative attitudes than girls. As noted before this is a recurrent finding in past research, but it is not known why this gender difference is so constant.

Age seems to have only a small impact in this first model, with older respondents having very slightly more negative attitudes than younger students. Higher age has often been found to predict negative attitudes to a larger extent than what I find here. But the age variation in this study might not be big enough for differences to be visible. Larger age brackets are usually also used in studies that include a broader range of the population, this can show a stronger statistical effect. Educations impact was tested in an alternative model and was found to be somewhat unclear, a slight decrease in negative attitudes occurs when moving from 9th school year to 10th school year, but no significant change is found otherwise. On the other hand, when we look at school track, it seems to be one of the variables with the strongest impact. Moving from primary school to university bound tracks in secondary school shows a significant decrease in the level of negative attitudes, and moving from primary school to vocational tracks show a significant increase in negative attitudes. This is likely accounted for through
self-selection in to university bound and vocational tracks respectively. Parent’s level of education predicts both children’s level of education, and to some degree attitudes. In addition to this socialization in school might also contribute to explaining the school track effect. This is a combination of factors that has been found to have explanatory value in past research on the topic (Gniewosz and Noack 2008).

When it comes to the socio-economic background variables, having at least one parent with higher education predicts moderately more positive attitudes, $B = -.056$. The transmission of attitudes from parent to child is an important factor in explaining attitudes. Gniewosz & Noack (2015) find such a transfer of attitudes to be strong up to an age of about 16 which is where the median age lies in this study. Living in a big city is also connected to less negative attitudes compared to living in a municipality of any other size, $B = -.084$. Marie Demker (2014) argues that this difference between cities and more rural areas can be explained at least in part by difference in local identities, and particularly that a strong local identity predicts more negative attitudes.

Lastly, youth that live in a municipality with a higher level of unemployment have more negative attitudes towards immigrants with an increase of unemployment by 1% corresponding to an increase of negative attitudes by 0.011. Given the range of 9,95 of the unemployment variable this amounts to a substantial difference in attitudes between low and high unemployment
municipalities. Youth that live in areas with a high level of unemployment might feel that their prospects for finding work is challenged by immigrants because both groups would likely compete for entry level jobs. This finding is in line with Hjerm & Nagayoshi’s (2011) find that economic threat matters for those among the majority that are in actual competition with out-groups.

In model two, the effect of having friends who are immigrants is added, this leads to an increase in the total explanatory power of the model by 4.7 percentage points. The ‘immigrant friend’ variable indicates that more high quality contact with immigrants leads to an improvement of attitudes. Having many immigrant friends compared to having none is associated with a substantial decrease in negative attitudes of $\beta_{-1.52}$, this makes it the strongest single variable in the analysis. With the average value on the attitude index being $0.28$ it is clear that the effect of high quality contact is relatively large, having just a few friends with an immigrant background predicts a decrease of $0.090$. It is, however, worth noting that having only one immigrant friend does not have any significant effect on attitudes.

The addition of the ‘immigrant friends’ variable in model two also causes some changes in the control variables. Living in a big city decreases in strength by about one fifth. For the latter two variables this indicates that differences among age groups, and difference between big city residents and others was to some
degree caused by variations in amount of high quality contact. I believe this strengthens the line of argument that increased chance for contact due to a larger proportion of immigrants in the cities leads to more actual contact and ultimately a reduction in negative attitudes, as indicated in Wagner et al. (2006).

In models three and four the variables for contact in school and contact in the neighborhood are added, respectively. Model 3 adds only 0,1% of explained variance to the analysis, and the ‘contact in school’ variable is of statistical significance but its contribution is less than β = ,000. When ‘contact in neighborhood’ is added in model 4 this has no contribution to the overall statistical analysis, and the individual variable is not significant. Between the two models there are only very small changes to the other variables, the only thing of note is that ‘contact in school’ has its statistical significance decreased by the addition of ‘contact in neighborhood’.

In the final and fifth model variables that control for conditions in the two contact situations are added to the analysis. Combined they increase the explained variance of the analysis by another 1,6%. The effect of experiences with vandalism, noise or petty crime in the neighborhood is slightly uncertain because of the lack of significance for the dummy variable expressing the response ‘quite often’. But seen as a whole, the results indicate that more experiences with such problems predict more negative attitudes to
a degree of a 0,062 increase on the attitude scale for ‘often’ compared to ‘never’.

Table 4. Final regression model, effect of contact, and control variables on attitudes towards immigrants. Model 5.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0,654</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls, ref. Boys</td>
<td>-0,087</td>
<td>0,006</td>
<td>***</td>
</tr>
<tr>
<td>Age</td>
<td>-0,004</td>
<td>0,004</td>
<td></td>
</tr>
<tr>
<td>School track, ref. primary school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocational track</td>
<td>0,094</td>
<td>0,011</td>
<td>***</td>
</tr>
<tr>
<td>University preparatory track</td>
<td>-0,053</td>
<td>0,010</td>
<td>***</td>
</tr>
<tr>
<td>One parent with employment, ref. no</td>
<td>0,005</td>
<td>0,028</td>
<td></td>
</tr>
<tr>
<td>One parent with higher education, ref. no</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>-0,051</td>
<td>0,009</td>
<td>***</td>
</tr>
<tr>
<td>Don’t know</td>
<td>-0,006</td>
<td>0,010</td>
<td></td>
</tr>
<tr>
<td>Lives in a big city, ref. no</td>
<td>-0,070</td>
<td>0,010</td>
<td>***</td>
</tr>
<tr>
<td>Unemployment in municipality</td>
<td>0,011</td>
<td>0,001</td>
<td>***</td>
</tr>
<tr>
<td>Amount of immigrant friends, ref. none</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One immigrant friend</td>
<td>-0,020</td>
<td>0,013</td>
<td></td>
</tr>
<tr>
<td>A few immigrant friends</td>
<td>-0,093</td>
<td>0,010</td>
<td>***</td>
</tr>
<tr>
<td>Many immigrant friends</td>
<td>-1,159</td>
<td>0,011</td>
<td>***</td>
</tr>
<tr>
<td>Does not know</td>
<td>-0,080</td>
<td>0,013</td>
<td>***</td>
</tr>
<tr>
<td>Proportion of immigrants in school class</td>
<td>0,000</td>
<td>0,000</td>
<td></td>
</tr>
<tr>
<td>Proportion of immigrants in municipality</td>
<td>-0,000</td>
<td>0,000</td>
<td></td>
</tr>
<tr>
<td>Problems in neighborhood with vandalism, noise etc, ref. never</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rarely</td>
<td>0,012</td>
<td>0,006</td>
<td>*</td>
</tr>
<tr>
<td>Sometimes</td>
<td>0,031</td>
<td>0,011</td>
<td>***</td>
</tr>
<tr>
<td>Quite often</td>
<td>0,032</td>
<td>0,019</td>
<td>*</td>
</tr>
<tr>
<td>Often</td>
<td>0,062</td>
<td>0,024</td>
<td>**</td>
</tr>
<tr>
<td>I don’t know</td>
<td>-0,015</td>
<td>0,028</td>
<td></td>
</tr>
<tr>
<td>How do you like your neighborhood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quite bad</td>
<td>-0,031</td>
<td>0,047</td>
<td></td>
</tr>
<tr>
<td>Not good or bad</td>
<td>-0,044</td>
<td>0,047</td>
<td></td>
</tr>
<tr>
<td>Quite well</td>
<td>-0,041</td>
<td>0,047</td>
<td></td>
</tr>
<tr>
<td>Very well</td>
<td>-0,045</td>
<td>0,047</td>
<td></td>
</tr>
<tr>
<td>Is your classroom calm during lesctions, ref. never</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>-0,055</td>
<td>0,013</td>
<td>***</td>
</tr>
<tr>
<td>Usually</td>
<td>-0,070</td>
<td>0,013</td>
<td>***</td>
</tr>
<tr>
<td>Always</td>
<td>-0,057</td>
<td>0,016</td>
<td>***</td>
</tr>
<tr>
<td>How do you like your school class, ref. very bad</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretty bad</td>
<td>-0,073</td>
<td>0,032</td>
<td>**</td>
</tr>
<tr>
<td>Pretty good</td>
<td>-0,098</td>
<td>0,030</td>
<td>***</td>
</tr>
<tr>
<td>Good</td>
<td>-1,116</td>
<td>0,030</td>
<td>***</td>
</tr>
</tbody>
</table>

Model R Square: 0,227
R Square Change: 0,016
Significance level of change: 0,000

Effects given as unstandardized coefficients B, standard deviation in brackets, and significance levels denoted by asterisk.
Significance levels: *= 0,1, **= 0,05, ***= 0,01.
Variables concerning the school class show much clearer results. Experiencing that the classroom is calm during lections predicts an improvement in attitudes $B = -0.057$ when going from ‘never’ to ‘always’, but the more common response is ‘usually’ and this predicts a slightly stronger improvement with $\beta = -0.070$. Liking ones’ school class is also associated with an improvement of attitudes and the effect is quite strong, with going from likings one’s school class ‘very bad’ to ‘good’ corresponding to a decrease of 0.116 on the attitude scale. Even the difference between ‘very bad’ and ‘pretty bad’ has a $B = -0.073$. All variables considered, the model manages to explain 22.7% of the observed variance in attitudes. 4.8 of these percentage points can be attributed to the contact variables. In the following section I will discuss the results of the analysis in light of theory and past empirical results.

**Discussion**

I started this article with two aims, the first to investigate if Swedish youths’ attitudes towards immigrants are affected by contact after controlling for factors that are known to explain variations in attitudes. The second to attempt to answer the question of whether more superficial forms of contact contribute to explaining attitudes after controlling for high quality contact in the form of friendship.
As is indicated by the contact variables in the analysis, contact is found to correlate with attitudes even after we control for a number of background variables. This finding is in line with much past research on contact effects as outlined in the previous research section. It also adds to the evidence for contacts effect on attitudes in a Scandinavian setting by studying data on youth. However, the effect of contact is not found to be very strong. For example, Pettigrew (2011) finds a mean correlation of $r = -0.21$ over 515 studies between contact and prejudice. In this Swedish sample I find $r = -0.181$ only for the strongest measure of contact included, having many immigrant friends. In total, 4.8 percent of the variance in attitudes could be explained by contact variables. The reasons for the somewhat low effect from contact may lie in the relatively positive attitudes towards immigrants that are found in Sweden. Where attitudes are already positive there has been observed something like a threshold effect where further positive attitude interventions have little or no effect (Hodson 2011). Pettigrew (1998) also argues that after an initial contact effect, more reductions in prejudice requires repeated and higher quality contact. This might offer part of the explanation for the observations I have made, and would be an interesting topic for further research.

Even though there are many youths who do not have immigrant friends, only 412 youth have no out-group friends that belong to a group that might be said to be of similar status, or objects for
similar stereotypes to immigrants. So if we consider the possibility of a secondary transfer effect (Pettigrew 2009) there are relatively few pupils who do not have some high-quality contact with outgroups. This may offer a further explanation to why the contact measures I use give somewhat low results, while at the same time negative attitudes are low. But this cannot be tested well in the present analysis and would need further research to be done. Longitudinal data would be best for this, but more could also be said if an analysis of contact with specific out-groups and the effect on attitudes towards different groups could be made.

*Superficial contact*

The second aim has been to investigate a point where theory and empirical finds differ somewhat. Allport’s formulation of contact theory holds that superficial contact might not lead to improved attitudes (Allport 1954). But past empirical finds have diverged somewhat from this and find that living in an area with a high proportion of minority group members is connected to an improvement of attitudes (Weber 2015), and that contact may lead to improved attitudes also when Allport’s optimal conditions are not present (Pettigrew and Tropp 2011). As a contribution to this, I have tried to find if superficial contact can have an explanatory effect on attitudes also when controlling for the effect that comes from high quality contact.
The statistical analysis shows that superficial contact, measured as proportion of immigrants in the municipality and school class has no significant effect on attitudes when high quality contact is controlled for. Re-running the regression models with the ‘immigrant friends’ variable placed last, leads to ‘contact in the local area’ and ‘contact in school’ variables having a very small but significant explanatory power, $R^2$ of 0.001 combined. This means that nearly all of the correlation observed between attitudes and contact in school or local area can be explained by the included background variables. The remainder can be explained by high quality contact. This seems to run against recent research on attitudes as referenced previously, but similar results have been gained in previous work. Hamberger & Hewstone (1997) who studied contact in a similar configuration, focusing on contact at work, in the neighborhood and contact as friendship also found that contact as friends was the only contact variable with explanatory power. It must however be mentioned that although past research has had success using proportions of immigrants as a proxy for contact (Wagner et al. 2006) there is a possibility that this variable fails to be a satisfactory measure of superficial contact in this case. This cannot be directly tested, and due to this it would be advisable to make use of direct measures contact in future research so any uncertainty can be eliminated.
Conclusion

By investigating attitudes among youth in Sweden using multiple regression analysis this article has tried to contribute to knowledge about how attitudes are affected by out-group contact. Focus has been on contact in schools and neighborhoods, and on the effect of outgroup friendship. The analysis found that high quality contact does have an effect on attitudes among Swedish youth even after controlling for background variables. However superficial contact measured as proportion of immigrants in the local area and school class do not show any effect on attitudes after controlling for friendship effects. This is thought to indicate that when there are already established friendships, superficial forms of contact do generally not contribute to a further reduction in negative attitudes.

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